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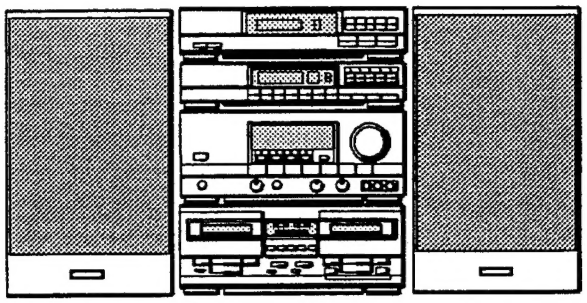
AIWA®

CU-D91M

SERVICE MANUAL



STEREO SYSTEM

• BASIC TAPE MECHANISM : TN-1800 • TYPE. E,K,Z

CENTER UNIT	AMPLIFIER	CASSETTE DECK	TUNER	REMOTE CONTROLLER	SPEAKER	CD PLAYER (OPTIONAL)	TURNTABLE (OPTIONAL)
CU-D91M (E,Z type)	MX-D91M	FX-W919	TX-D91	RC-T91ML	SX-E91	※1 DX-D91 ※2 DX-M90M	※3 PX-E80
CU-D91M (K type)	MX-D91M	FX-W91	TX-D91	RC-T91ML	SX-E91	※1 DX-D91 ※2 DX-M90M	※3 PX-E80

※1 As to the service information of DX-D91, see the individual service manual of DX-D91.

※2 As to the service information of DX-M90M, see the individual service manual of DX-M90M.

※3 As to the service information of PX-E80, see the individual service manual of PX-E80.

AIWA Co., Ltd. Tokyo Japan

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SPECIFICATIONS

AMPLIFIER MX-D91M E, K, Z (with the graphic equalizer)

Power output 100 W + 100 W (6 ohms, T.H.D. 10% RMS)
80 W + 80 W (6 ohms, T.H.D. 1% DIN)

Input sensitivity (load impedance)
PHONO, VIDEO 1/DAT, VIDEO 2, VIDEO 3 IN (AUDIO): 210 mV (47 kohms)

Signal-to-noise ratio
90 dB (CD/DAT DIRECT)

Power requirements
E, Z: 220 V AC, 50/60 Hz
K: 240 V AC, 50/60 Hz

Power consumption
380 W (System total 410 W)

Dimensions 360 (W) x 216 (H) x 324 (D) mm

Weight 8.5 kg

CASSETTE DECK FX-W919/FX-W91

Track format 4 tracks, 2 channels

Frequency response
Metal tape: 20 – 17,000 Hz (only for playback)
CrO_2 tape: 20 – 16,000 Hz
Normal tape: 20 – 15,000 Hz

Signal-to-noise ratio
70 dB (DOLBY NR C-ON, CrO_2 tape, peak level)

Wow and flutter 0.09% (WRMS)

Tape speed 4.8 cm/sec. (1-7/8 ips)
8.6 cm/sec. (high speed)

Rewind time 120 sec. (C-60)

Fast forward time 120 sec. (C-60)

Recording system AC bias

Erase system AC erase

Motor DC servomotor x 2

Heads Playback head x 1 (deck 1)
Record/playback/erase head x 1 (deck 2)

Dimensions 360 (W) x 138 (H) x 309 (D) mm

Weight 3.9 kg

TUNER TX-D91YE, YK, YZ

<FM section>

Frequency range 87.5 MHz to 108 MHz

Usable sensitivity (IHF)
1.6 µV (75 ohms) 15.2 dBf

Alternate channel selectivity
50 dB (±400 kHz)

Signal-to-noise ratio
70 dB (STEREO) 78 dB (MONO)

Image response ratio
45 dB

Frequency response
20 Hz to 15 kHz (+0.5 dB, –3 dB)

Stereo separation 40 dB at 1 kHz

Antenna 75 ohms (unbalanced)

<MW section>

Frequency range 522 kHz to 1,611 kHz

Usable sensitivity 300 µV/m

Selectivity 23 dB (9 kHz)

Signal-to-noise ratio
53 dB (100 dB input)

Antenna Loop antenna

<LW section>

Frequency range 144 kHz to 290 kHz

Usable sensitivity 1,000 µV/m

Antenna Loop antenna

<Timer section and general>

Program timer "Once" and/or "every"

Sleep timer Capable of setting in 10-minute decrements, 99 minutes maximum

Dimensions 360 (W) x 78 (H) x 308 (D) mm

Weight 2.3 kg

SPEAKER SX-E91

Cabinet type Bass reflex

Speaker 220 mm cone type woofer
60 mm cone type tweeter
30 mm ceramic type super tweeter

Impedance 6 ohms

Output sound pressure level:
89 dB/W/m

Frequency response
42 Hz to 20 kHz

Dimensions 260 (W) x 550 (H) x 230 (D) mm

Weight 7.0 kg

COMMON SECTION

Power requirements
E,Z: 220 V AC, 50/60 Hz
K: 240 V AC, 50/60 Hz

Dimensions 880 (W) x 550 (H) x 324 (D) mm (vertical placement)
1,240 (W) x 550 (H) x 324 (D) mm (horizontal placement)

Weight 28.7 kg

- Design and specifications are subject to change without notice.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
- "Dolby", the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
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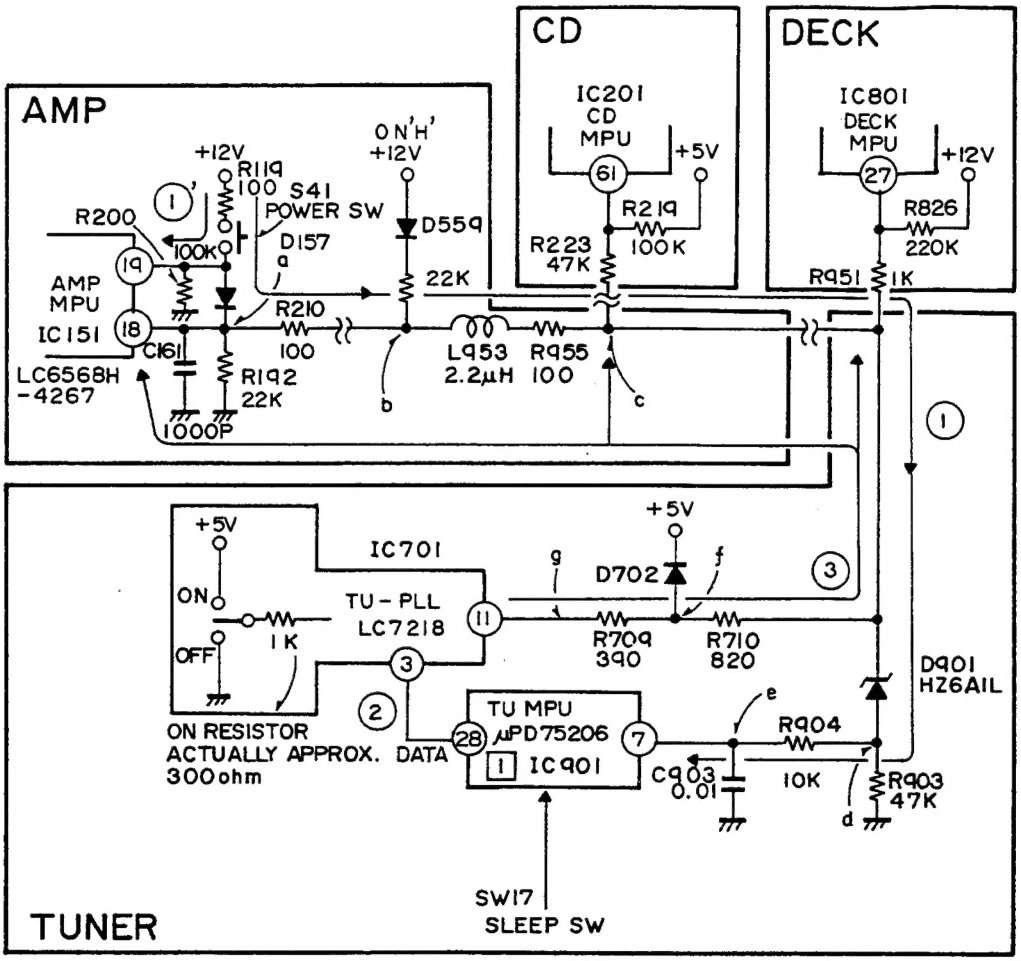
POWER CONTROL



Voltages at each point when the power switch is held depressed (some values are different at the moment the switch is pressed)

		a	b	c	d	e	f	g
OK	When OFF to ON	10.9	10.5	10.0	4.0	4.0	6.2	5.9
	When ON to OFF	10.7	10.0	9.4	3.0	3.0	3.5	2.0

CU-D91 SYSTEM

1. The power switch (S41) is on the amplifier. When this is pressed, the whole system turns on or off.
2. The tuner has a SLEEP switch (SW17). When this button is pressed during power off, the whole system turns on and the sleep timer operates.

Power control by the power switch (S41)

① The power switch (S41) is pressed (12V) and the microprocessor in the tuner is turned on (5V). (This also turns on the microprocessor (LC6568H-4267) in the amplifier).

② The microprocessor (μPD75206) in the tuner supplies the ON signal to LC7218.

③ LC7218 outputs "H" (5V) and holds the power control line at 5V, and the microprocessors of the system (amplifier, CD player and cassette deck) remain on.

Power control by the timer incorporated in the tuner

● The timer in the microprocessor of the tuner is activated.

② The microprocessor in the tuner supplies the ON signal to LC7218.

③ LC7218 outputs "H" (5V) via pin 11 and the microprocessors in the amplifier, CD player and cassette deck turn on.

Power turned on by the sleep button

● The sleep switch (SW17) is pressed during power off.

② The microprocessor in the tuner supplies the ON signal to LC7218.

③ LC7218 outputs "H" (5V) via pin 11 and the microprocessors in the amplifier, CD player and cassette deck turn on.

MODEL NO.

MX – D91M

ELECTRICAL MAIN PARTS LIST (MX – D91M)

REF.NO.	PART NO.	DESCRIPTION
		≡≡≡ IC ≡≡≡
	87-001-443-010	IC,ASP8801
	87-001-440-019	IC,BA15218N
	87-001-868-019	IC,BU4015B
	87-001-347-019	IC,HD14051BP
	87-001-350-019	IC,HD14052BP
	87-001-530-010	IC,LA3607
	89-VP5-630-010	IC,LC6568H-4267
	87-001-528-010	IC,LC7522
	87-020-758-019	IC,NJM2068SD
	87-001-396-019	IC,STK4182-2(E,K,Z)
	87-001-946-010	IC,STK4201-2(U)
	87-001-902-019	IC,STK4221-2(H)
	87-020-943-019	IC,TC9176P
	87-001-869-010	IC,XR1091
		≡≡≡ TRANSISTOR ≡≡≡
	89-110-155-019	TRANSISTOR,2SA1015GR
	89-112-632-019	TRANSISTOR,2SA1263N,OR(E,K,Z)
	89-213-292-019	TRANSISTOR,2SB1329Q
	89-213-702-019	TRANSISTOR,2SB1370E
	89-309-456-019	TRANSISTOR,2SC945LP
	89-318-155-019	TRANSISTOR,2SC1815GR
	87-026-462-019	TRANSISTOR,2SC1740S(SR)
	89-406-555-019	TRANSISTOR,2SD655E
	87-026-500-019	TRANSISTOR,2SD2144S,UV
	87-026-219-019	TRANSISTOR,DTA144ES
	89-026-375-019	TRANSISTOR,RN2202
	87-026-377-019	TRANSISTOR,RN2204
		≡≡≡ DIODE ≡≡≡
	82-596-799-019	DIODE,1N4002
	87-001-559-019	DIODE,1SS131
	87-020-465-019	DIODE,1SS133
	87-001-820-010	DIODE,GP15B(E,K,Z)
	87-001-729-010	DIODE,S5VB20
	87-027-346-019	DIODE,ZENER HZ11A2L
	87-027-680-019	DIODE,ZENER HZ11C1L
	87-027-661-019	DIODE,ZENER HZ30-2L
	87-027-393-019	DIODE,ZENER HZ4C2(E,K,Z)
	87-027-332-019	DIODE,ZENER HZ6B1L
	87-027-702-019	DIODE,ZENER HZ6C2L
	87-027-584-019	DIODE,ZENER HZ9C1L
		≡≡≡ MAIN CIRCUIT BOARD SECTION ≡≡≡
C500	★87-018-134-019	CAP,CERA-SOL 0.01
C501	★87-011-693-019	CAP,ELECT 8200-63(H)
C501	★87-010-755-019	CAP,ELECT 8200-56(U)
C501	★87-010-756-019	CAP,ELECT 6800-50(E,K,Z)
C502	★87-010-693-019	CAP,ELECT 8200-63(H)
C502	★87-010-755-019	CAP,ELECT 8200-56(U)
C502	★87-010-756-019	CAP,ELECT 6800-50(E,K,Z)
C503	★87-010-374-019	CAP,ELECT 47-10
C504	★87-010-263-019	CAP,ELECT 100-10
C505	★87-010-403-019	CAP,ELECT 3.3-50 SME
C509	★87-010-430-019	CAP,ELECT 100-63(H,U)
C509	★87-010-247-019	CAP,ELECT 100-50(E,K,Z)
C510	★87-010-374-019	CAP,ELECT 47-10
C511	★87-010-248-019	CAP,ELECT 220/10
C521	★87-010-384-019	CAP,ELECT 100-25 SME
C522	★87-010-384-019	CAP,ELECT 100-25 SME
C523	★87-010-385-019	CAP,ELECT 220-25
C531	★87-010-384-019	CAP,ELECT 100-25 SME
C551	★87-010-390-019	CAP,ELECT 3300-25 SME
C553	★87-010-382-019	CAP,ELECT 22-25 SME
C554	★87-010-381-019	CAP,ELECT 330-16 SME
C555	★87-012-341-019	CAP,ELECT 10-16 SXJ
C556	★87-018-134-019	CAP,CERA-SOL 0.01
C557	★87-010-374-019	CAP,ELECT 47-10
C558	★87-010-263-019	CAP,ELECT 100-10
C601	★87-018-115-019	CAP,CERA-SOL 47P SL
C602	★87-018-115-019	CAP,CERA-SOL 47P SL
C603	★87-010-404-019	CAP,ELECT 4.7-50 SME
C604	★87-010-404-019	CAP,ELECT 4.7-50 SME
C605	★87-010-404-019	CAP,ELECT 4.7-50 SME
C606	★87-010-404-019	CAP,ELECT 4.7-50 SME
C607	★87-010-374-019	CAP,ELECT 47-10
C647	★87-018-125-019	CAP,CERA-SOL 330P
C651	★87-018-131-019	CAP,CERA-SOL 1000P
C652	★87-018-127-019	CAP,CERA-SOL 470P
C653	★87-010-404-019	CAP,ELECT 4.7-50 SME
C654	★87-010-546-019	CAP,ELECT 0.33-50 SME
C755	★87-018-103-019	CAP,CERA-SOL 8.2P SL
C756	★87-018-103-019	CAP,CERA-SOL 8.2P SL
C757	★87-010-404-019	CAP,ELECT 4.7-50 SME
C758	★87-010-404-019	CAP,ELECT 4.7-50 SME
C807	★87-010-421-019	CAP,ELECT 4.7-50 5L
C808	★87-010-421-019	CAP,ELECT 4.7-50 5L
C809	★87-010-404-019	CAP,ELECT 4.7-50 SME
C810	★87-010-404-019	CAP,ELECT 4.7-50 SME
C815	★87-010-405-019	CAP,ELECT 10-50 SME
C816	★87-010-405-019	CAP,ELECT 10-50 SME
C819	★87-010-404-019	CAP,ELECT 4.7-50 SME
C820	★87-010-404-019	CAP,ELECT 4.7-50 SME
C821	★87-010-401-019	CAP,ELECT 1-50 SME
C822	★87-010-404-019	CAP,ELECT 4.7-50 SME
C823	★87-010-401-019	CAP,ELECT 1-50 SME
C825	★87-010-236-019	CAP,ELECT 1000-10
C826	★87-010-236-019	CAP,ELECT 1000-10
C827	★87-018-131-019	CAP,CERA-SOL 1000P
C828	★87-018-131-019	CAP,CERA-SOL 1000P
C829	★87-010-381-019	CAP,ELECT 330-16 SME
C851	★87-010-404-019	CAP,ELECT 4.7-50 SME
C852	★87-010-404-019	CAP,ELECT 4.7-50 SME
C853	★87-018-124-019	CAP,CERA-SOL 270P
C854	★87-018-124-019	CAP,CERA-SOL 270P
C855	★87-010-382-019	CAP,ELECT 22-25 SME
C856	★87-010-382-019	CAP,ELECT 22-25 SME
C857	★87-018-140-019	CAP,CERA-SOL 2.2P CH
C858	★87-018-140-019	CAP,CERA-SOL 2.2P CH
C859	★87-010-260-019	CAP,ELECT 47-25 SME
C860	★87-010-260-019	CAP,ELECT 47-25 SME
C861	★87-010-544-019	CAP,ELECT 0.1-50
C862	★87-010-544-019	CAP,ELECT 0.1-50
C863	★87-010-544-019	CAP,ELECT 0.1-50
C864	★87-010-544-019	CAP,ELECT 0.1-50
C865	★87-010-430-019	CAP,ELECT 100-63(H,U)
C865	★87-010-247-019	CAP,ELECT 100-50 SME(E,K,Z)
C867	★87-018-123-019	CAP,CERA-SOL 220P
C868	★87-018-123-019	CAP,CERA-SOL 220P
C901	★87-010-221-019	CAP,ELECT 470-10
C902	★87-010-221-019	CAP,ELECT 470-10
C903	★87-010-221-019	CAP,ELECT 470-10
C904	★87-010-236-019	CAP,ELECT 1000-10
C919	★87-010-263-019	CAP,ELECT 100-10
C951	★87-018-131-019	CAP,CERA-SOL 1000P
C952	★87-018-209-019	CAP,CERA-SOL 0.1
C953	★87-010-804-019	CAP,CERA-SOL 0.01(Z)

REF.NO.	PART NO.	DESCRIPTION
C954	★87-010-804-019	CAP,CERA-SOL 0.01(Z)
⚠FR501	87-029-096-010	RESISTOR,FUSE 100 1/2W(H)
⚠FR501	87-029-065-010	RESISTOR,FUSE 68 1/2W(U)
⚠FR501	87-029-030-019	RESISTOR,FUSE 82 1/4W(E,K,Z)
⚠FR551	87-029-124-019	RESISTOR,FUSE 2.2 1/4W(U)
J951	87-009-204-019	JACK,6.3 YKB21-5012(MIC)
J952	81-669-655-019	JACK,6.3 W/S AU(PHONES)
J953-1	★89-VP5-639-010	JACK,PIN 6P AV(VIDEO-1 IN)
J953-2	+++	JACK,PIN 6P AV(VIDEO-1 OUT)
J953-3	+++	JACK,PIN 6P AV(VIDEO-2 IN)
J953-4	+++	JACK,PIN 6P AV(MONITOR OUT)
J953-5	+++	JACK,PIN 6P AV(VIDEO-1/DAT-L)
J953-6	+++	JACK,PIN 6P AV(VIDEO-1/DAT-R)
J954-1	★89-VP5-638-010	JACK,PIN 6P EARTH(PHONO-L)
J954-2	+++	JACK,PIN 6P EARTH(PHONO-R)
J954-3	+++	JACK,PIN 6P EARTH(VIDEO-1/DAT-L)
J954-4	+++	JACK,PIN 6P EARTH(VIDEO-1/DAT-R)
J954-5	+++	JACK,PIN 6P EARTH(VIDEO-2-L)
J954-6	+++	JACK,PIN 6P EARTH(VIDEO-2-R)
J955	★87-009-065-019	CONNECTOR,15P FG(1.TUNER)
J956	★87-009-063-019	CONNECTOR,11P FG(2.CD)
J957	★87-049-851-019	JACK,PIN 2P(SURROUND SPEAKER)
J958	★87-033-197-019	TERMINAL,SP-4P 2(SPEAKERS)
L951	★87-003-366-019	COIL,1UH
L952	★87-005-366-019	COIL,1UH
L953	★87-003-098-019	COIL,2.2UH
R525	★87-022-050-019	RES,M/F 1W-0.22J
R526	★87-022-050-019	RES,M/F 1W-0.22J
R529	★87-022-050-019	RES,M/F 1W-0.22J
R530	★87-022-050-019	RES,M/F 1W-0.22J
RY551	87-045-285-010	RELAY,VB12MB
RY951	87-045-307-010	RELAY,LZ-12WM-K
		≡≡≡ FRONT CIRCUIT BOARD SECTION ≡≡≡
C101	★87-010-405-019	CAP,ELECT 10-50 SME
C102	★87-010-405-019	CAP,ELECT 10-50 SME
C151	★87-010-405-019	CAP,ELECT 10-50 SME
C152	★87-018-134-019	CAP,CERA-SOL 0.01
C153	★87-010-807-019	CAP,ELECT 330-6.3
C154	★87-010-421-019	CAP,ELECT 4.7-50 5L
C156	★87-010-405-019	CAP,ELECT 10-50 SME
C157	★87-010-234-019	CAP,ELECT 47-16 5L
C158	★87-018-127-019	CAP,CERA-SOL 470P
C159	★87-018-209-019	CAP,CERA-SOL 0.1
C160	★87-018-209-019	CAP,CERA-SOL 0.1
C161	★87-018-134-019	CAP,CERA-SOL 0.01
C162	★87-018-131-019	CAP,CERA-SOL 1000P
C201	★87-018-131-019	CAP,CERA-SOL 1000P
C202	★87-018-131-019	CAP,CERA-SOL 1000P
C251	★87-010-404-019	CAP,ELECT 4.7-50 SME
C252	★87-010-404-019	CAP,ELECT 4.7-50 SME
C253	★87-010-404-019	CAP,ELECT 4.7-50 SME
C254	★87-010-234-019	CAP,ELECT 47-16 5L
C255	★87-018-134-019	CAP,CERA-SOL 0.01
C256	★87-018-195-019	CAP,CERA-SOL 1200P
C257	★87-010-401-019	CAP,ELECT 1-50 SME
C259	★87-018-209-019	CAP,CERA-SOL 0.1
C261	★87-018-121-019	CAP,CERA-SOL 150P
C262	★87-018-121-019	CAP,CERA-SOL 150P
C301	★87-010-404-019	CAP,ELECT 4.7-50 SME
C302	★87-010-404-019	CAP,ELECT 4.7-50 SME
C303	★87-018-127-019	CAP,CERA-SOL 470P
C304	★87-018-127-019	CAP,CERA-SOL 470P
C307	★87-010-417-019	CAP,ELECT 2.2-35 5L
C308	★87-010-402-019	CAP,ELECT 2.2-50 SME
C311	★87-010-071-019	CAP,ELECT 1-50 5L
C312	★87-010-401-019	CAP,ELECT 1-50 SME
C315	★87-010-068-019	CAP,ELECT 0.22-50 5L
C316	★87-010-545-019	CAP,ELECT 0.22-50 SME
C317	★87-018-201-019	CAP,CERA-SOL 5600P
C318	★87-018-201-019	CAP,CERA-SOL 5600P
C321	★87-018-132-019	CAP,CERA-SOL 2200P
C322	★87-018-132-019	CAP,CERA-SOL 2200P
C325	★87-018-129-019	CAP,CERA-SOL 680P
C326	★87-018-129-019	CAP,CERA-SOL 680P
C329	★87-018-125-019	CAP,CERA-SOL 330P
C330	★87-018-125-019	CAP,CERA-SOL 330P
C331	★87-018-133-019	CAP,CERA-SOL 4700P
C332	★87-018-133-019	CAP,CERA-SOL 4700P
C333	★87-010-075-019	CAP,ELECT 10-16 5L
C334	★87-010-248-019	CAP,ELECT 220-10 SME
C335	★87-018-134-019	CAP,CERA-SOL 0.01
C338	★87-010-405-019	CAP,ELECT 10-50
C401	★87-010-401-019	CAP,ELECT 1-50 SME
C402	★87-010-401-019	CAP,ELECT 1-50 SME
C403	★87-010-401-019	CAP,ELECT 1-50 SME
C404	★87-010-401-019	CAP,ELECT 1-50 SME
C405	★87-018-130-019	CAP,CERA-SOL 820P
C406	★87-018-130-019	CAP,CERA-SOL 820P
C411	★87-018-123-019	CAP,CERA-SOL 220P
C412	★87-018-123-019	CAP,CERA-SOL 220P
C415	★87-010-545-019	CAP,ELECT 0.22-50 SME
C416	★87-010-545-019	CAP,ELECT 0.22-50 SME
C417	★87-010-401-019	CAP,ELECT 1-50 SME
C418	★87-010-401-019	CAP,ELECT 1-50 SME
C419	★87-018-109-019	CAP,CERA-SOL 22P
C420	★87-018-109-019	CAP,CERA-SOL 22P
C421	★87-010-071-019	CAP,ELECT 1-50 5L
C422	★87-010-401-019	CAP,ELECT 1-50 SME
C423	★87-018-134-019	CAP,CERA-SOL 0.01
C424	★87-018-134-019	CAP,CERA-SOL 0.01
C425	★87-010-421-019	CAP,ELECT 4.7-50 5L
C426	★87-010-421-019	CAP,ELECT 4.7-50 5L
C433	★87-010-071-019	CAP,ELECT 1-50 5L
C434	★87-010-071-019	CAP,ELECT 1-50 5L
C435	★87-010-071-019	CAP,ELECT 1-50 5L
C436	★87-010-401-019	CAP,ELECT 1-50 SME
C441	★87-010-234-019	CAP,ELECT 47-16 5L
C444	★87-010-263-019	CAP,ELECT 100-10
C457	★87-010-401-019	CAP,ELECT 1-50 SME
CF151	★87-030-167-019	VIB,CER CST4.0MHZ
FL101	89-VP5-625-010	FL,9BT66GK(AMP)
FL102	89-VP5-626-010	FL,BG-762GK(GEQ)
J201-1	★89-VP5-637-010	JACK,PIN 3P AU(VIDEO-3 L)
J201-2	+++	JACK,PIN 3P AU(VIDEO-3 R)
J201-3	+++	JACK,PIN 3P AU(VIDEO-3 V)
L151	★87-005-372-019	COIL,S 1MMH
LED1	87-001-123-019	LED,SLZ-981C-02(1/HEAVY)
LED2	87-001-123-019	LED,SLZ-981C-02(2/SOFT)
LED3	87-001-123-019	LED,SLZ-981C-02(3/VOCAL)
LED4	87-001-123-019	LED,SLZ-981C-02(4/HS)
LED5	87-001-123-019	LED,SLZ-981C-02(5/CLEAR)
LED6	87-001-123-019	LED,SLZ-981C-02(MANUAL)
LED7	87-001-123-019	LED,SLZ-981C-02(PROGRAM)
LED8	87-001-123-019	LED,SLZ-981C-02(CD/DAT DIRECT)
LED9	87-001-123-019	LED,SLZ-981C-02(SURROUND)
LED10	87-001-123-019	LED,SLZ-981C-02(BBE)
LED11	87-001-123-019	LED,SLZ-981C-02(DIRECT REC.)

REF.NO.	PART NO.	DESCRIPTION
RE101	*89-VP5-634-019	ENCODER,DIA16(VOLUME UP/DOWN)
S1	87-036-142-019	TACT SW(1)
S2	87-036-142-019	TACT SW(2)
S3	87-036-142-019	TACT SW(3)
S4	87-036-142-019	TACT SW(4)
S5	87-036-142-019	TACT SW(5)
S6	87-036-142-019	TACT SW(HEAVY)
S7	87-036-142-019	TACT SW(SOFT)
S8	87-036-142-019	TACT SW(VOCAL)
S9	87-036-142-019	TACT SW(HS)
S10	87-036-142-019	TACT SW(CLEAR)
S11	87-036-142-019	TACT SW(60HZ △)
S12	87-036-142-019	TACT SW(150HZ △)
S13	87-036-142-019	TACT SW(350HZ △)
S14	87-036-142-019	TACT SW(1KHZ △)
S15	87-036-142-019	TACT SW(2.5KHZ △)
S16	87-036-142-019	TACT SW(6KHZ △)
S17	87-036-142-019	TACT SW(15KHZ △)
S18	87-036-142-019	TACT SW(60HZ ▽)
S19	87-036-142-019	TACT SW(150HZ ▽)
S20	87-036-142-019	TACT SW(350HZ ▽)
S21	87-036-142-019	TACT SW(1KHZ ▽)
S22	87-036-142-019	TACT SW(2.5KHZ ▽)
S23	87-036-142-019	TACT SW(6KHZ ▽)
S24	87-036-142-019	TACT SW(15KHZ ▽)
S25	87-036-142-019	TACT SW(GEQ ON/OFF)
S26	87-036-142-019	TACT SW(DISPLAY)
S27	87-036-142-019	TACT SW(CALIBRATION)
S28	87-036-142-019	TACT SW(MEMORY)
S29	87-036-142-019	TACT SW(TAPE)
S30	87-036-142-019	TACT SW(TUNER)
S31	87-036-142-019	TACT SW(PHONO)
S32	87-036-142-019	TACT SW(CD)
S33	87-036-142-019	TACT SW(VIDEO-1/DAT)
S34	87-036-142-019	TACT SW(VIDEO-2)
S35	87-036-142-019	TACT SW(VIDEO-3)
S36	87-036-142-019	TACT SW(CD/DAT DIRECT)
S37	87-036-142-019	TACT SW(SURROUND)
S38	87-036-142-019	TACT SW(BBE)
S39	87-036-142-019	TACT SW(DIRECT REC.)
S40	87-036-142-019	TACT SW(MUTING WAKE UP)
S41	87-036-142-019	TACT SW(POWER,STANDBY/ON)
SFR401	*87-021-745-019	SFR 47K
SFR402	*87-021-745-019	SFR 47K
VR201	89-VP5-635-019	VOLUME 10KA(MIC MIXING)
VR202	89-VP5-636-019	VOLUME 500KA(DSL)
VR401	81-689-623-019	VOLUME 50KB(BBE)

=== POWER-1 CIRCUIT BOARD SECTION ===

⚠	87-033-213-019	FUSE CLAMP
⚠F2	87-035-139-019	FUSE,T2.5A(H,E,K,Z)
⚠F2	87-035-404-019	FUSE,3A(U)
⚠R1	*87-022-184-019	RES,M/F 0.33-1W
⚠R2	*87-022-184-019	RES,M/F 0.33-1W

=== POWER-2 CIRCUIT BOARD SECTION(U,E,K,Z) ===

⚠	87-033-213-019	FUSE CLAMP
⚠F1	87-035-407-019	FUSE,6A 125V(U)
⚠F1	87-035-139-019	FUSE,T2.5A(E,K,Z)

=== POWER-3 CIRCUIT BOARD SECTION(H) ===

⚠	87-033-213-019	FUSE CLAMP
⚠F3	87-035-191-019	FUSE,T3.15A
⚠F4	87-035-191-019	FUSE,T3.15A

REF.NO.	PART NO.	DESCRIPTION

=== POWER-4 CIRCUIT BOARD SECTION(H) ===

⚠S101	87-036-173-019	SLIDE SW(VOLTAGE SELECTOR)

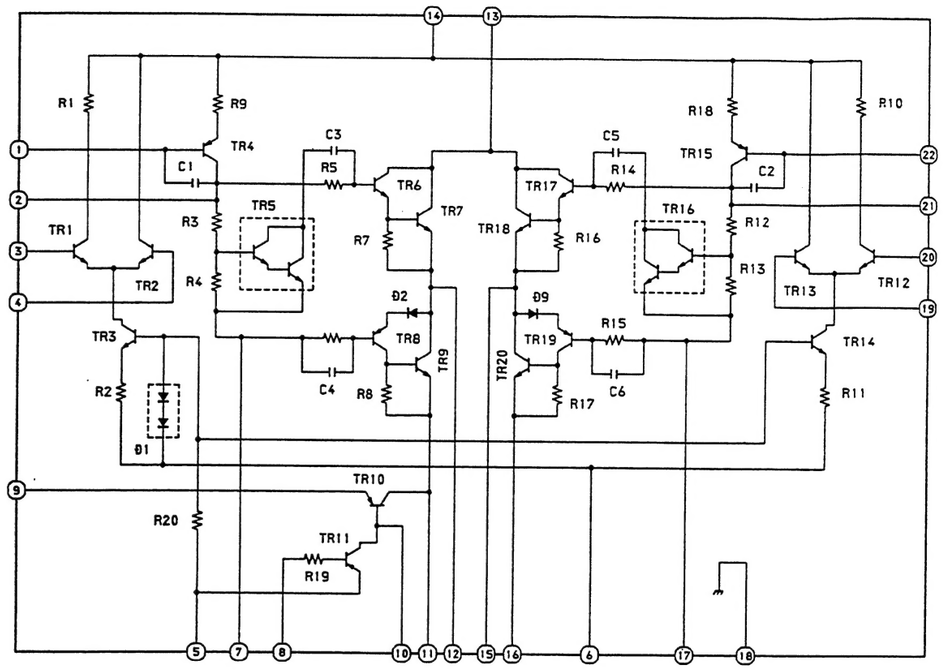
=== TR CIRCUIT BOARD SECTION ===

=== MISCELLANEOUS ===

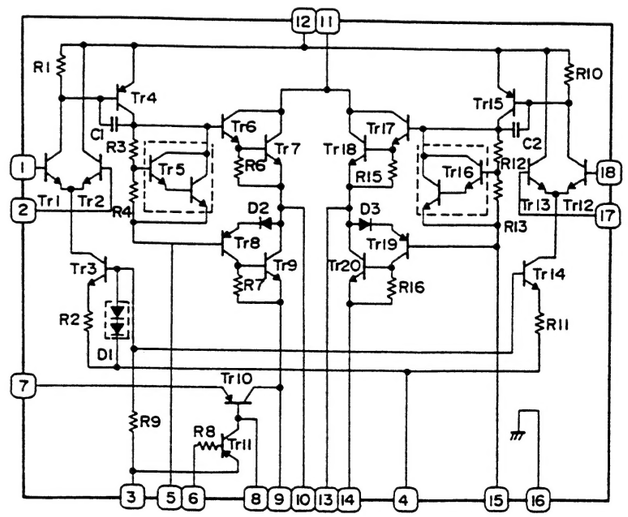
⚠	*82-187-797-019	AC CORD E (H,E,Z)
⚠	*87-034-589-019	AC CORD U (U)
⚠	*82-187-796-019	AC CORD BS (K)
⚠	*87-085-185-019	AC CORD BUSHING E (H,E,K,Z)
⚠	*87-085-189-010	AC CORD BUSHING U (U)
⚠PT1	89-VP5-606-019	POWER TRANSFORMER H (H)
⚠PT1	89-VP5-607-019	POWER TRANSFORMER UC (U)
⚠PT1	89-VP5-608-019	POWER TRANSFORMER EZ (E,Z)
⚠PT1	89-VP5-609-019	POWER TRANSFORMER KG (K)

IC BLOCK DIAGRAM – 1 (MX – D91M)

IC,STK4201 II,STK4221 II



IC,STK4182 II



IC DESCRIPTION (MX－D91M)

IC,LC6568H－4267

Pin No.	Pin Name	I/O	Description	ACTIVE
1～9	a～i	O	Segments outputs to light the FL (fluorescent) display.	H
10～13	KEY－0～3	I	Key inputs.	H
14	I－REC	I	Remote control signal input.	H
15	I－RE・A	I	Volume control data input.	L
16	I－RE・B	I	Volume control data input.	L
17	KEY－4	I	Key input.	H
18	I－POWER	I	"H" when the power is turned on. The input functions are as shown in the table on the right. Note : The last function is restored by the remote control input.	H
19	KEY－POWER	I		H
20	O－$\overline{\text{POWER}}$	O	"L" output when the power is turned on.	L
21	I/O－$\overline{\text{SERIAL}}$	I/O	Control I/O serial (8-bit) terminal with the deck, tuner and CD player. 1. Auto Function (The function is set to CD or TAPE when the CD player or deck starts to play.) 2. Easy Operation ・CD SYNCHRO REC ・Changes the function to CD and holds it. ・Sets the system to the DIRECT REC mode during HIGH SPEED CD REC. ・Starts the deck or CD player when the TAPE or CD function key is turned on.	L
22	O－$\overline{\text{BBE}}$	O	BBE LED lighting and BBE ON/OFF signal switching output.	L
23	O－$\overline{\text{SURROUND}}$	O	SURROUND LED lighting, SURROUND ON/OFF signal switching and SURROUND speaker ON/OFF control output.	L
24	O－$\overline{\text{EQ REC}}$	O	DIRECT REC LED lighting and REC OUT signal switching output.	L
25	O－DATA	O	Outputs a signal to switch the graphic equalizer, electronic volume, input attenuator, function and direct mode.	H
26	O－CLK	O	Outputs a signal to switch the graphic equalizer, electronic volume, input attenuator, function and direct mode.	H
27	O－INPUT	O	Output to control shift register BU4015. (when switching the input attenuator, function and direct mode)	H
28	O－GEQ	O	Output to control the graphic equalizer.	H
29	O－EVR	O	Electronic volume control STB terminal.	H
30	TEST	I	Connected to test terminal Vss.	－
31	VSS	－	Connected to ground.	－
32	OSC－1	－	Clock oscillation pins.	－
33	OSC－2			
34	RESET	I	"L" input resets the IC.	－
35	HOLD	I	"H" input holds the microprocessor, stops oscillations and sets the system to the backup mode. (Goes "L" when the protection circuit operates)	H
36	O－VIDEO 2	O	Video signal switching outputs.	H
37	O－VIDEO 3	O		
38	I－COMP	I	Spectrum analyzer lighting level input.	H

	VR UP	VR DOWN	Not accepted
⑮	↑	↓	—
⑯	L	L	H

	LAST FUNCTION	TUNER FUNCTION
⑱	H	H
⑲	H	L

	VIDEO 1	VIDEO 2	VIDEO 3
㊱	L	H	L
㊲	L	L	H

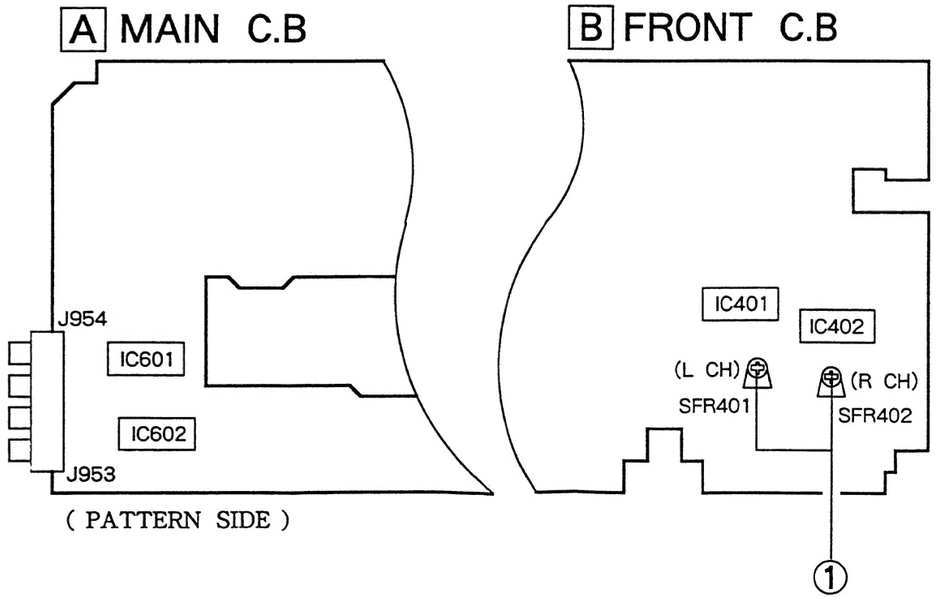
Pin No.	Pin Name	I/O	Description	ACTIVE
39	O－COMP A	O	Spectrum analyzer BPF control output.	H
40	O－COMP B	O	Spectrum analyzer BPF control output.	H
41	O－COMP C	O	Spectrum analyzer BPF control output.	H
42	O－LED	O	Dynamic lighting LED output.	H
43～50	$\overline{\text{1G}}$～$\overline{\text{8G}}$	O	Grid and key matrix outputs to light the FL display.	L
51	－Vp	－	Connected to -31V.	－
52	$\overline{\text{9G}}$	O	Grid and key matrix output to light the FL display.	L
53～63	j～t	O	Segment outputs to light the FL display.	H
64	VDD	－	Positive ⊕ power terminal.	－

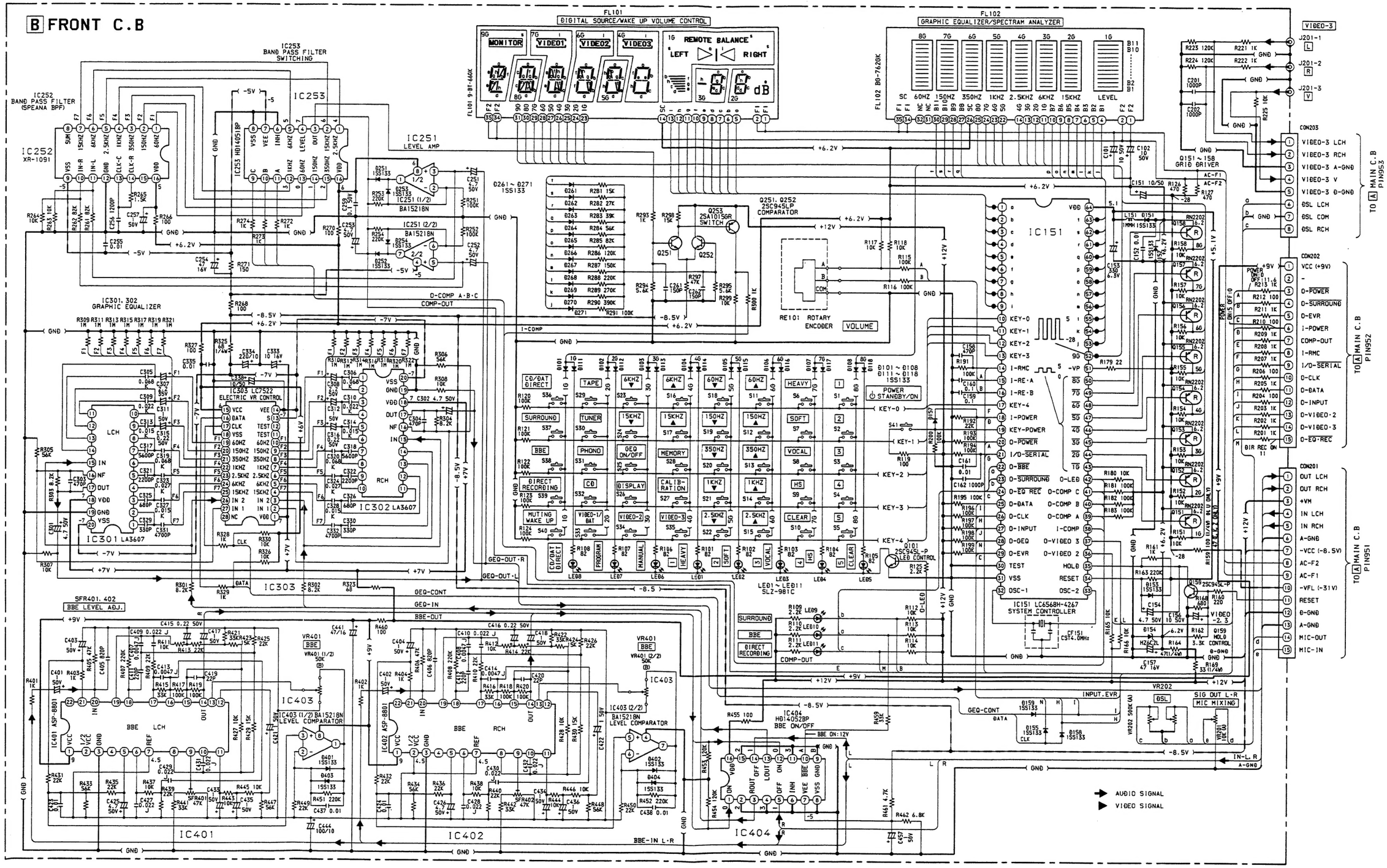
ADJUSTMENT (MX－D91M)

1. BBE Level Adjustment.

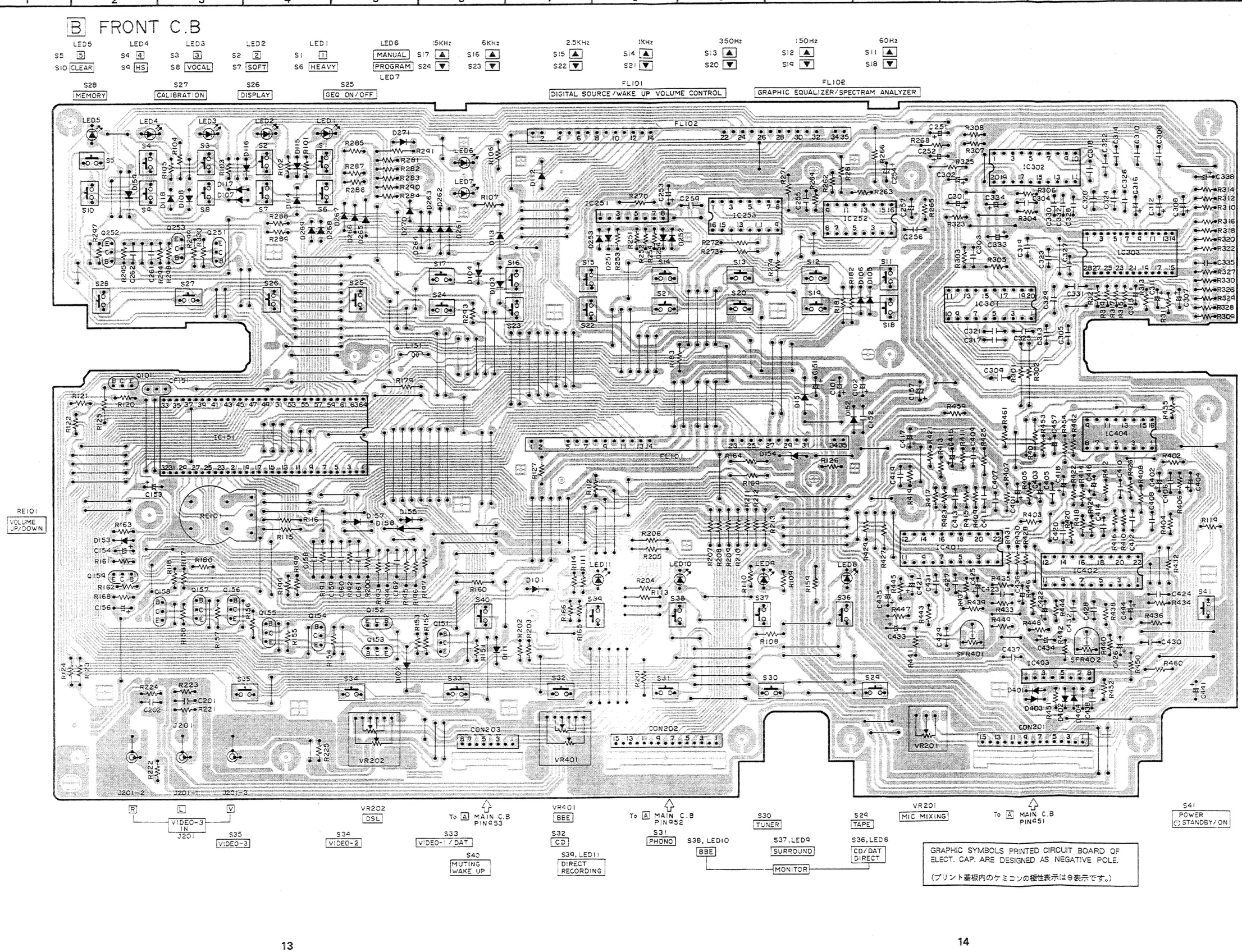
Settings : ・Test point : VIDEO-1 / DAT REC OUT (J953)
・Input terminal : VIDEO-1 / DAT IN (J954)
・Input signal : 0dBm (0.775V), 1kHz/5kHz
・BBE switch : ON
・BBE volume : MIN
・Ajustment locations : SFR401 (Lch)
SFR402 (Rch)

Method : Set the BBE volume to minimum and adjust so that the output difference between the 1kHz and 5kHz signals is 0±0.5dBm.

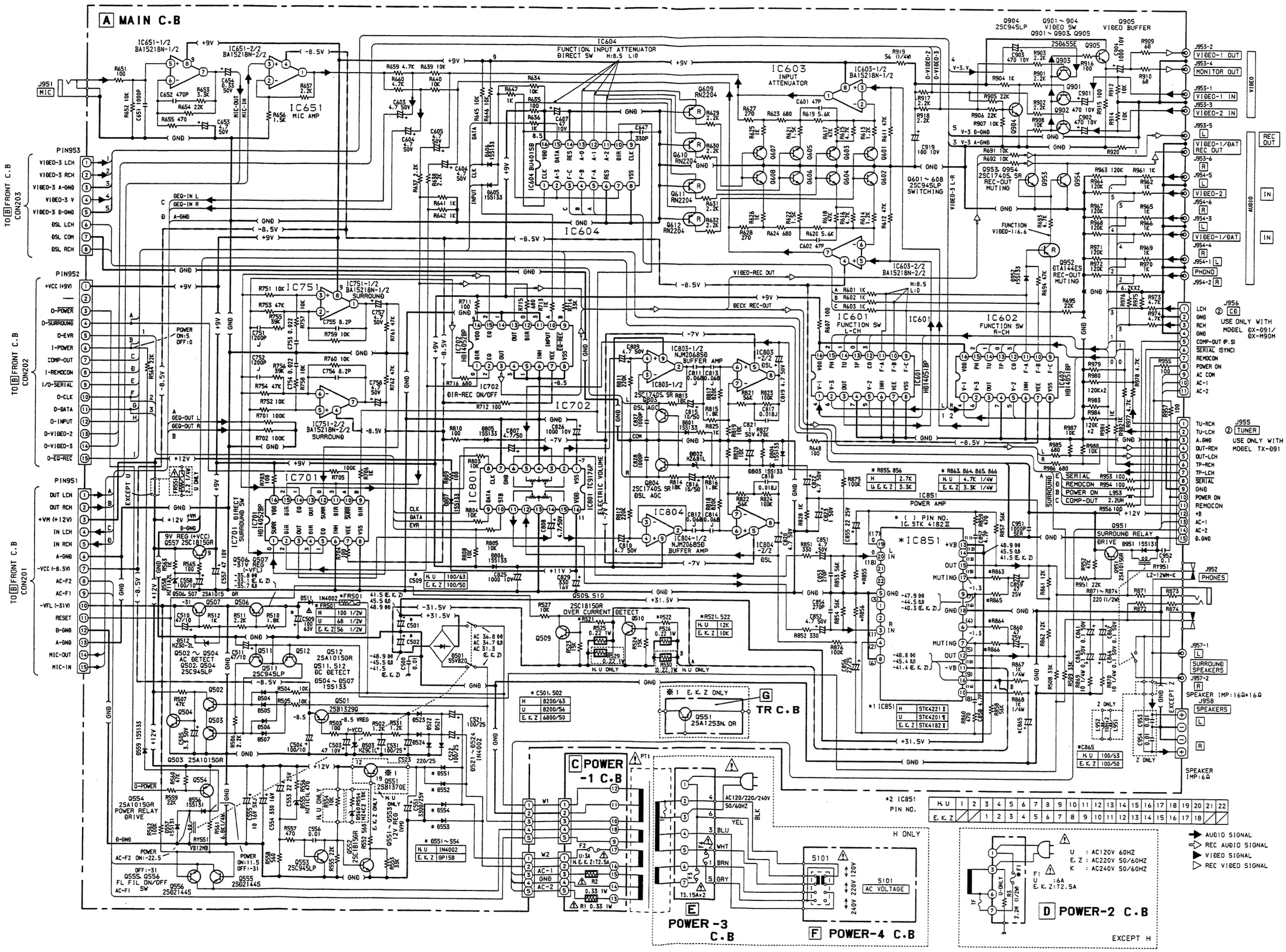


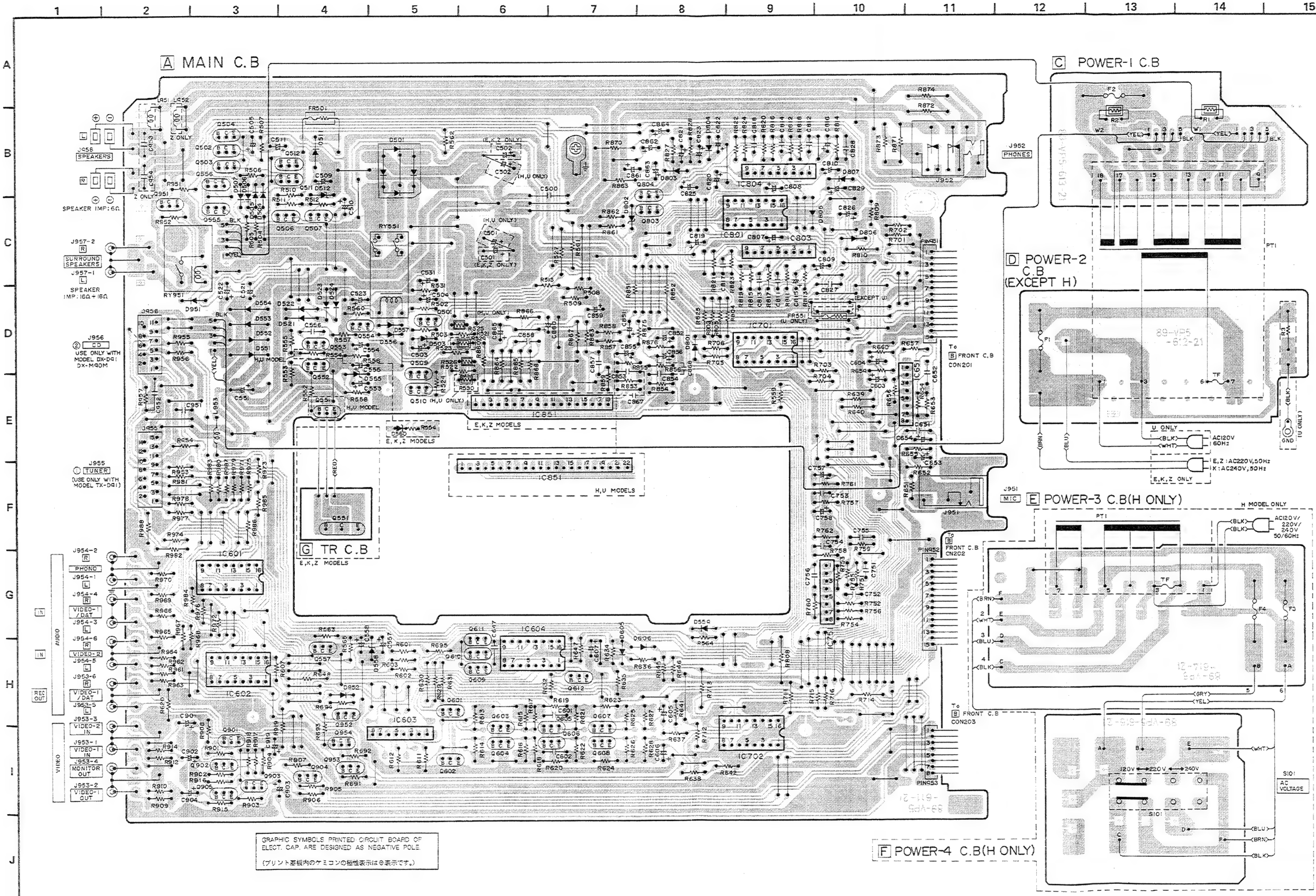

B FRONT C.B
FL101
DIGITAL SOURCE/WAKE UP VOLUME CONTROL
MONITOR
VIDEO1
VIDEO2
VIDEO3
REMOTE BALANCE
LEFT
RIGHT
FL101 9-BT-660K
FL102
GRAPHIC EQUALIZER/SPECTRUM ANALYZER
FL102 B0-7620K
SC 60HZ 150HZ 350HZ 1KHZ 2.5KHZ 6KHZ 15KHZ LEVEL
IC253
BAND PASS FILTER SWITCHING
IC252
BAND PASS FILTER (SPEANA BPF)
IC252 XR-1091
IC253 HD14051BP
IC251
LEVEL AMP
IC251 (1/2)
IC251 (2/2)
BA15218N
D261 ~ D271 1SS133
Q253 2SA1015GR
Q251, Q252 2SC945LP
COMPARATOR
Q251
Q252
RE101 ROTARY ENCODER
VOLUME
IC151
IC151 LC6568H-4267
SYSTEM CONTROLLER
CF151 CST4.0MHz
Q151 ~ 158 GRID DRIVER
VIDEO-3
J201-1 L
J201-2 R
J201-3 V
CON203
VIDEO-3 LCH
VIDEO-3 RCH
VIDEO-3 A-GND
VIDEO-3 V
VIDEO-3 Ð-GND
OSL LCH
OSL COM
OSL RCH
TO A MAIN C.B P1N953
CON202
VCC (+9V)
D-POWER
D-SURROUND
D-EVR
I-POWER
COMP-OUT
I-RMC
I/O-SERIAL
D-CLK
D-DATA
D-INPUT
D-VIDEO·2
D-VIDEO·3
D-EQ·REC
TO A MAIN C.B P1N952
CON201
OUT LCH
OUT RCH
+VM
IN LCH
IN RCH
A-GND
-VCC (-8.5V)
AC-F2
AC-F1
-VFL (-31V)
RESET
Ð-GND
A-GND
MIC-OUT
MIC-IN
TO A MAIN C.B P1N951
IC301, 302
GRAPHIC EQUALIZER
IC301 LA3607
IC302 LA3607
IC303 LC7522
ELECTRIC VR CONTROL
IC303
IC401
IC402
IC403
IC403 (1/2) BA15218N
LEVEL COMPARATOR
IC403 (2/2) BA15218N
LEVEL COMPARATOR
IC404 HD14052BP
BBE ON/OFF
IC401 ASP-8801
IC402 ASP-8801
BBE LCH
BBE RCH
SFR401, 402
BBE LEVEL ADJ.
VR401
BBE
VR401 (1/2) 50K
VR401 (2/2) 50K
VR202
SIG OUT L·R
MIC MIXING
INPUT.EVR
GEQ-CONT
DATA
CLK
GEQ-OUT·R
GEQ-OUT·L
GEQ-IN
BBE-OUT
BBE-IN L·R
COMP-OUT
I-COMP
O-COMP A·B·C
COMP-OUT
IN-L, R
A-GND
TAPE
TUNER
PHONO
CD
DISPLAY
DIRECT RECORDING
MUTING WAKE UP
SURROUND
BBE
GEQ ON/OFF
MEMORY
CALIB-RATION
VIDEO-1/BAT
VIDEO-2
VIDEO-3
6KHZ
15KHZ
150HZ
350HZ
1KHZ
2.5KHZ
60HZ
HEAVY
SOFT
VOCAL
HS
CLEAR
POWER STANDBY/ON
KEY-0
KEY-1
KEY-2
KEY-3
KEY-4
KEY-POWER
I-POWER
I-RE·A
I-RE·B
I-RMC
I/O-SERIAL
D-BBE
D-SURROUND
D-EQ REC
D-DATA
D-CLK
D-INPUT
D-GEQ
D-EVR
TEST
VSS
OSC-1
OSC-2
O-LED
O-COMP C
O-COMP B
O-COMP A
O-VIDEO 3
O-VIDEO 2
HOLD
RESET
LED1 ~ LED11 SLZ-981C
Q101 2SC945L-P
LED CONTROL
AUDIO SIGNAL
VIDEO SIGNAL

B FRONT C.B

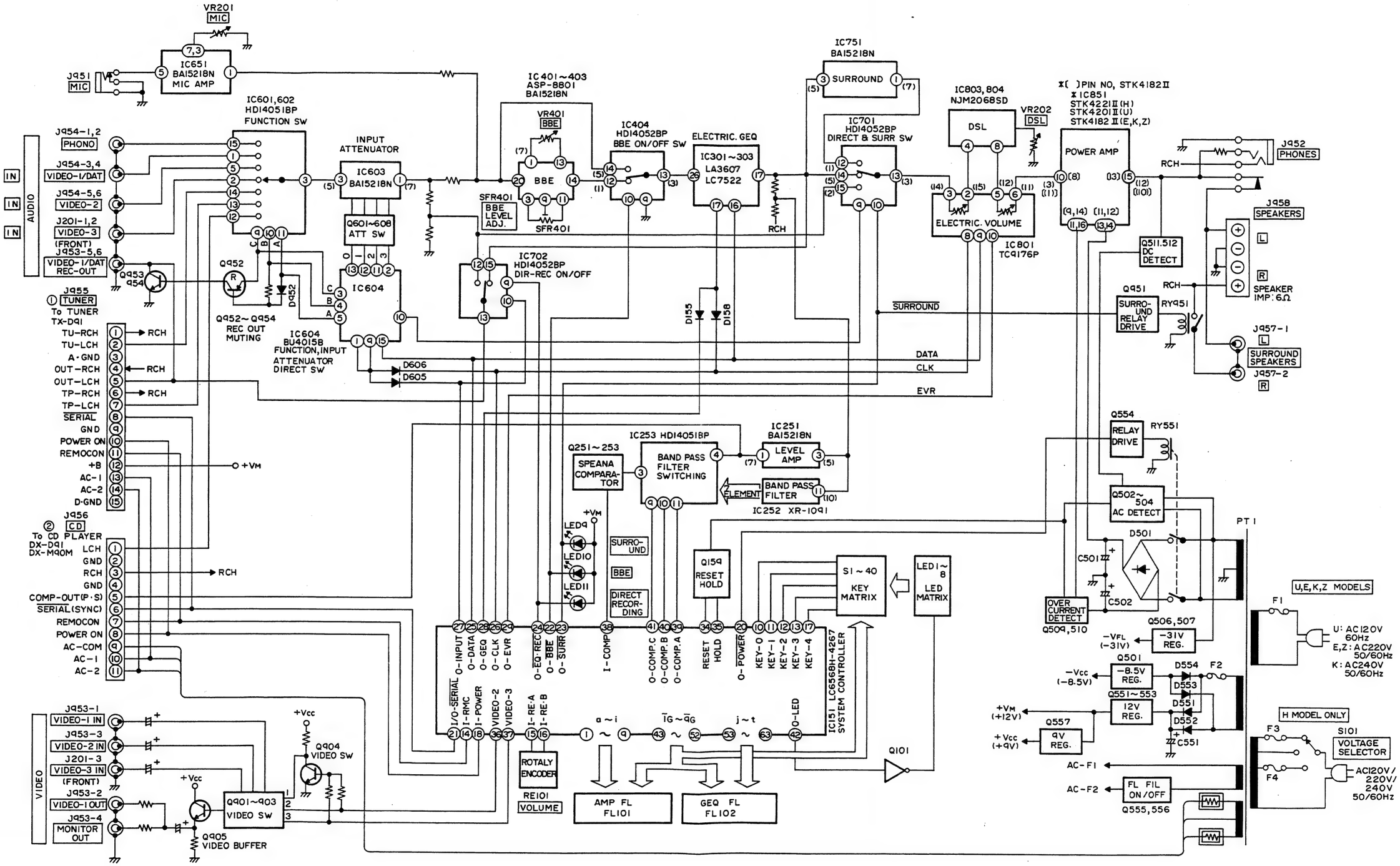

LED5
LED4
LED3
LED2
LED1
LED6
MANUAL
PROGRAM
LED7
15KHz
6KHz
2.5KHz
1KHz
350Hz
150Hz
60Hz
S5 5
S10 CLEAR
S4 4
S9 HS
S3 3
S8 VOCAL
S2 2
S7 SOFT
S1 1
S6 HEAVY
S17
S24
S16
S23
S15
S22
S14
S21
S13
S20
S12
S19
S11
S18
S28 MEMORY
S27 CALIBRATION
S26 DISPLAY
S25 GEQ ON/OFF
FL101 DIGITAL SOURCE/WAKE UP VOLUME CONTROL
FL102 GRAPHIC EQUALIZER/SPECTRAM ANALYZER
RE101 VOLUME UP/DOWN
VR202 DSL
VR401 BBE
VR201 MIC MIXING
J201 VIDEO-3 IN
S35 VIDEO-3
S34 VIDEO-2
S33 VIDEO-1/DAT
S40 MUTING WAKE UP
S32 CD
S39, LED11 DIRECT RECORDING
S31 PHONO
S38, LED10 BBE
S30 TUNER
S37, LED9 SURROUND
MONITOR
S29 TAPE
S36, LED8 CD/DAT DIRECT
S41 POWER (STANDBY/ON)
To A MAIN C.B PIN 53
To A MAIN C.B PIN 52
To A MAIN C.B PIN 51
CON203
CON202
CON201
IC151
IC251
IC252
IC253
IC301
IC302
IC303
IC401
IC402
IC403
IC404
SFR401
SFR402
GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示は⊖表示です。)

SCHEMATIC DIAGRAM – 2 (MX – D91M)



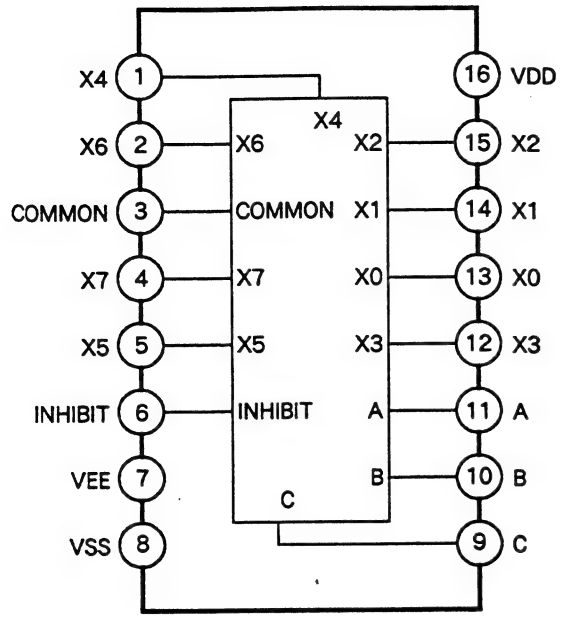

A MAIN C.B
C POWER-1 C.B
D POWER-2 C.B (EXCEPT H)
E POWER-3 C.B(H ONLY)
F POWER-4 C.B(H ONLY)
G TR C.B
E,K,Z MODELS
H,U MODELS
H MODEL ONLY
J956 SPEAKERS
SPEAKER IMP: 6Ω
J957-2 SURROUND SPEAKERS
J957-1 SPEAKER IMP: 16Ω+16Ω
J956 CD USE ONLY WITH MODEL DX-D9 DX-M90M
J955 TUNER (USE ONLY WITH MODEL TX-D91)
J954-2 PHONO
J954-1
J954-4 VIDEO-1 /DAT
J954-3
J954-6 VIDEO-2
J954-5
J953-6 VIDEO-1 /DAT
J953-5
J953-3 VIDEO-2 IN
J953-1 VIDEO-1 IN
J953-4 MONITOR OUT
J953-2 VIDEO-1 OUT
AUDIO IN
AUDIO REC OUT
VIDEO
J952 PHONES
J951 MIC
To B FRONT C.B CON201
To B FRONT C.B CON202
To B FRONT C.B CON203
U ONLY
AC120V 60Hz
E,Z : AC220V,50Hz
K : AC240V,50Hz
E,K,Z ONLY
AC120V/ 220V/ 240V 50/60Hz
S101 AC VOLTAGE
IC601
IC602
IC603
IC604
IC801
IC804
IC851
IC702
GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE
(プリント基板内のケミコンの極性表示は⊖表示です。)

BLOCK DIAGRAM (MX – D91M)



IC BLOCK DIAGRAM – 2 ,TRUTH TABLE (MX – D91M)

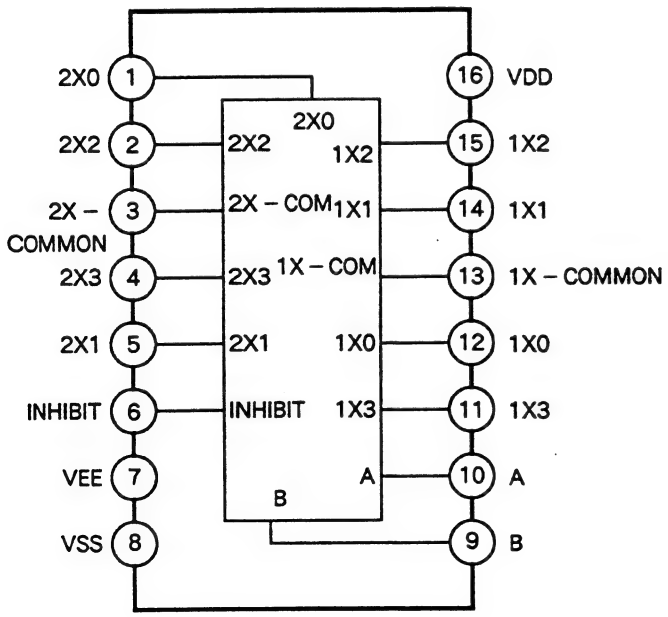
IC,HD14051BP



HD14051BP

CONTROL INPUT			ON SWITCH	FUNCTION
C	B	A		
0	0	0	×0	TAPE
0	0	1	×1	TUNER
0	1	0	×2	PHONO
0	1	1	×3	CD
1	0	0	×4	VIDEO-1/DAT
1	0	1	×5	VIDEO-2
1	1	0	×6	VIDEO-3
1	1	1	×7	(MUTE)

IC,HD14052BP



HD14052BP

CONTROL INPUT		ON SWITCH	FUNCTION
B	A		
0	0	×0	BBE ON
0	1	×1	BBE OFF
1	0	×2	——
1	1	×3	——

GND O-$\overline{\text{BBE}}$

HD14052BP

CONTROL INPUT		ON SWITCH	FUNCTION
B	A		
0	0	×0	SURROUND ON
0	1	×1	NORMAL
1	0	×2	DIRECT+SURROUND
1	1	×3	DIRECT ON

DIRECT O-$\overline{\text{SURR}}$

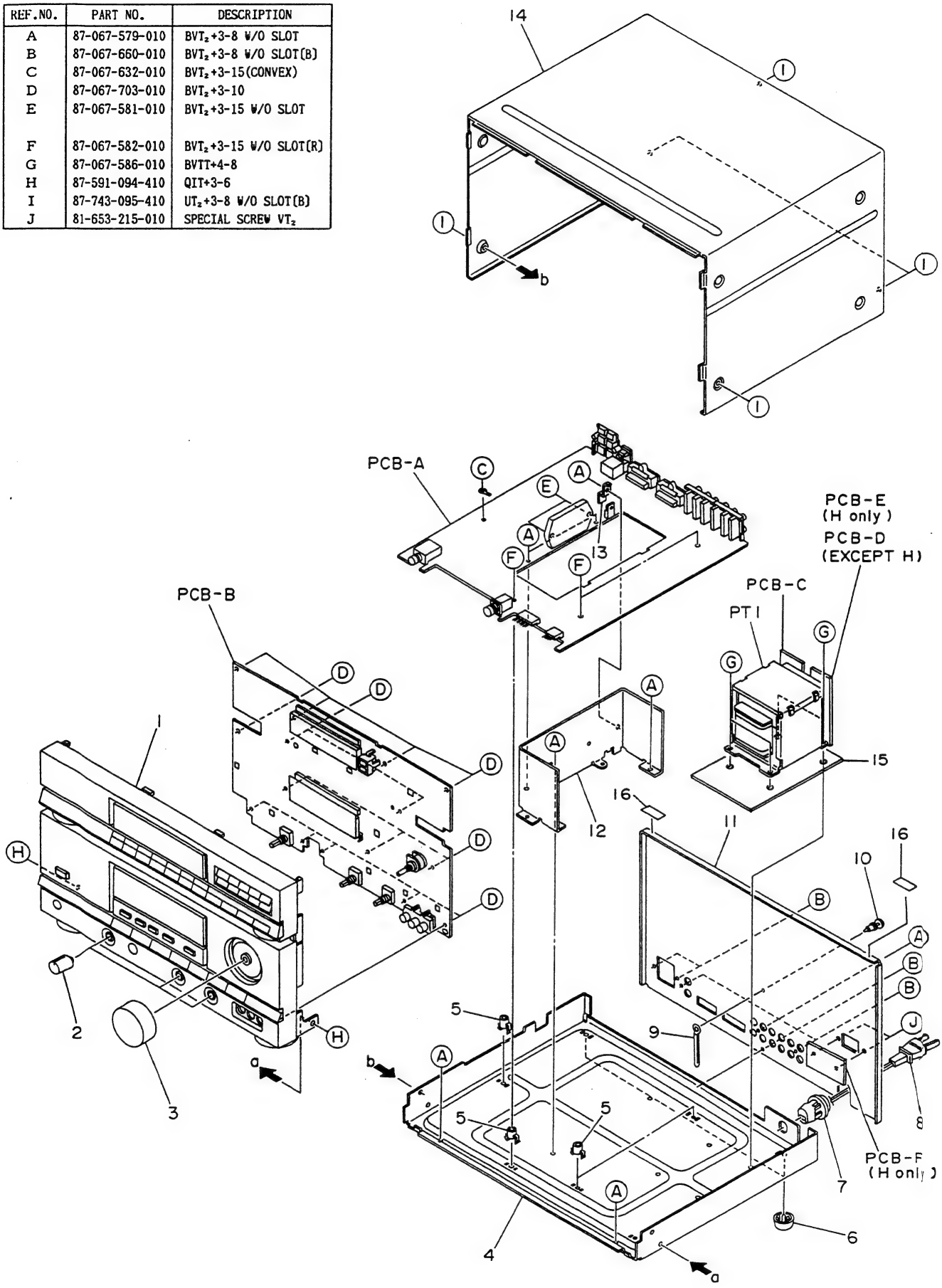
HD14052BP

CONTROL INPUT		ON SWITCH	FUNCTION
B	A		
0	0	×0	DIRECT-REC
0	1	×1	(MUTE)
1	0	×2	NORMAL-REC
1	1	×3	(MUTE)

O- O-INPUT
$\overline{\text{EQ-REQ}}$ (Usually O)

EXPLODED VIEW (MX – D91M)

REF.NO.	PART NO.	DESCRIPTION
A	87-067-579-010	BVT_2+3-8 W/O SLOT
B	87-067-660-010	BVT_2+3-8 W/O SLOT(B)
C	87-067-632-010	BVT_2+3-15(CONVEX)
D	87-067-703-010	BVT_2+3-10
E	87-067-581-010	BVT_2+3-15 W/O SLOT
F	87-067-582-010	BVT_2+3-15 W/O SLOT(R)
G	87-067-586-010	BVTT+4-8
H	87-591-094-410	QIT+3-6
I	87-743-095-410	UT_2+3-8 W/O SLOT(B)
J	81-653-215-010	SPECIAL SCREW VT_2



MECHANICAL PARTS LIST (MX – D91M)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	1	*09-047-561-010	CABINET FRONT ASSY(D91 H)	*	1
	1	*09-047-580-010	CABINET FRONT ASSY(D91M U)	*	1
	1	*09-047-581-010	CABINET FRONT ASSY(D91M E,K)	*	1
	1	*09-047-582-010	CABINET FRONT ASSY(D91M H,D91M Z)	*	1
	2	*89-VP5-006-010	KNOB,ROTARY DSL	*	3
	3	*89-VP5-005-019	KNOB,ROTARY VOLUME	*	1
	4	---	CHASSIS,MAIN		1
	5	---	HOLDER,P.C.B		4
	6	*87-085-213-019	FOOT,H12.5		2
	7	*87-085-185-010	BUSHING,AC CORD(EXCEPT D91M U)		1
	7	*87-085-189-010	BUSHING,AC CORD(D91M U)		1
	8	*82-187-797-019	AC CORD(EXCEPT D91M U,D91M K)		1
	8	*87-034-589-019	AC CORD(D91M U)		1
	8	*82-187-796-019	AC CORD(D91M K)		1
	9	---	WIRE BINDER		1
	10	*87-084-077-019	NYLON RIVET DIA 3.5-4.5		1
	11	*89-VP5-030-010	PANEL,REAR(D91 H)	*	1
	11	*89-VP5-037-010	PANEL,REAR(D91 HJ)	*	1
	11	*89-VP5-050-010	PANEL,REAR(D91M H)	*	1
	11	*89-VP5-051-010	PANEL,REAR(D91M HJ)	*	1
	11	*89-VP5-031-010	PANEL,REAR(D91M U)	*	1
	11	*89-VP5-032-010	PANEL,REAR(D91M E)	*	1
	11	*89-VP5-033-010	PANEL,REAR(D91M K)	*	1
	11	*89-VP5-034-010	PANEL,REAR(D91M Z)	*	1
	12	---	HEAT SINK		1
	13	---	HOLDER,IC(D91 H,D91M H,U)		1
	14	*89-VP5-027-010	CABINET,STEEL	*	1
	15	---	SHIELD,PT		1
	16	*82-179-259-019	SHEET,PVC 4-12		2

MODEL NO.

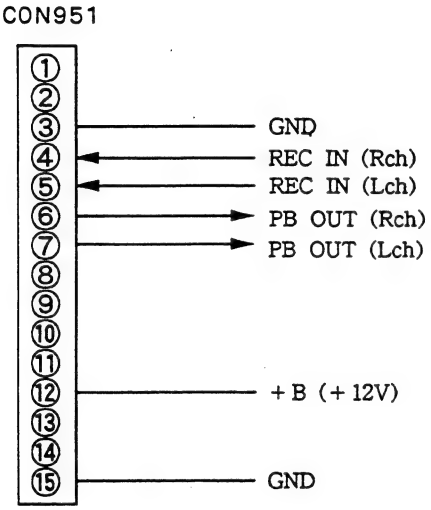
FX – W91/W919

CAUTIONS WHEN SERVICING (FX – W91/W919)

Model FX – W91/W919 does not have a power supply circuit.
Power is supplied to it through a 15 – pin flat cable and the signal inputs/outputs are also performed through this cable.
When servicing the FX – W91/W919 connect it to the MX – D91/D91M so power is supplied to the FX – W91/W919.
If the MX – D91/D91M is not available, follow the procedure below.

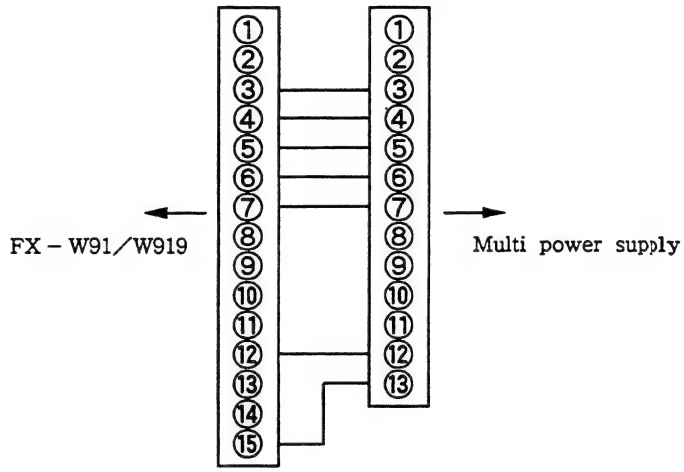
[When servicing the unassembled FX – W91/W919]

① Supply the following voltages to each terminal from an external power supply.

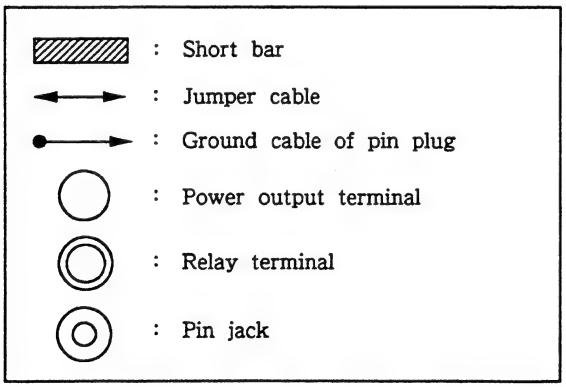


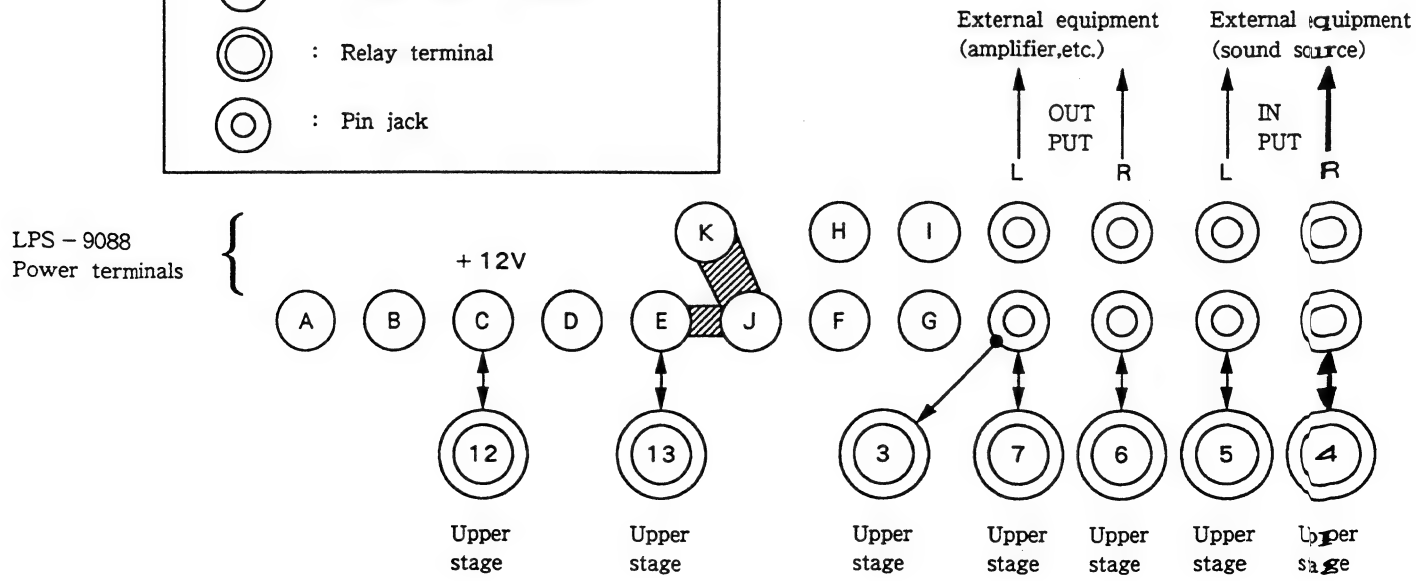
② Connection diagram when using multi power supply (LPS – 9088)

• Connect a multi – conversion harness for the Model CU – D91 to J1.



Connect a multi – conversion harness





ELECTRICAL MAIN PARTS LIST (FX－W91／W919)

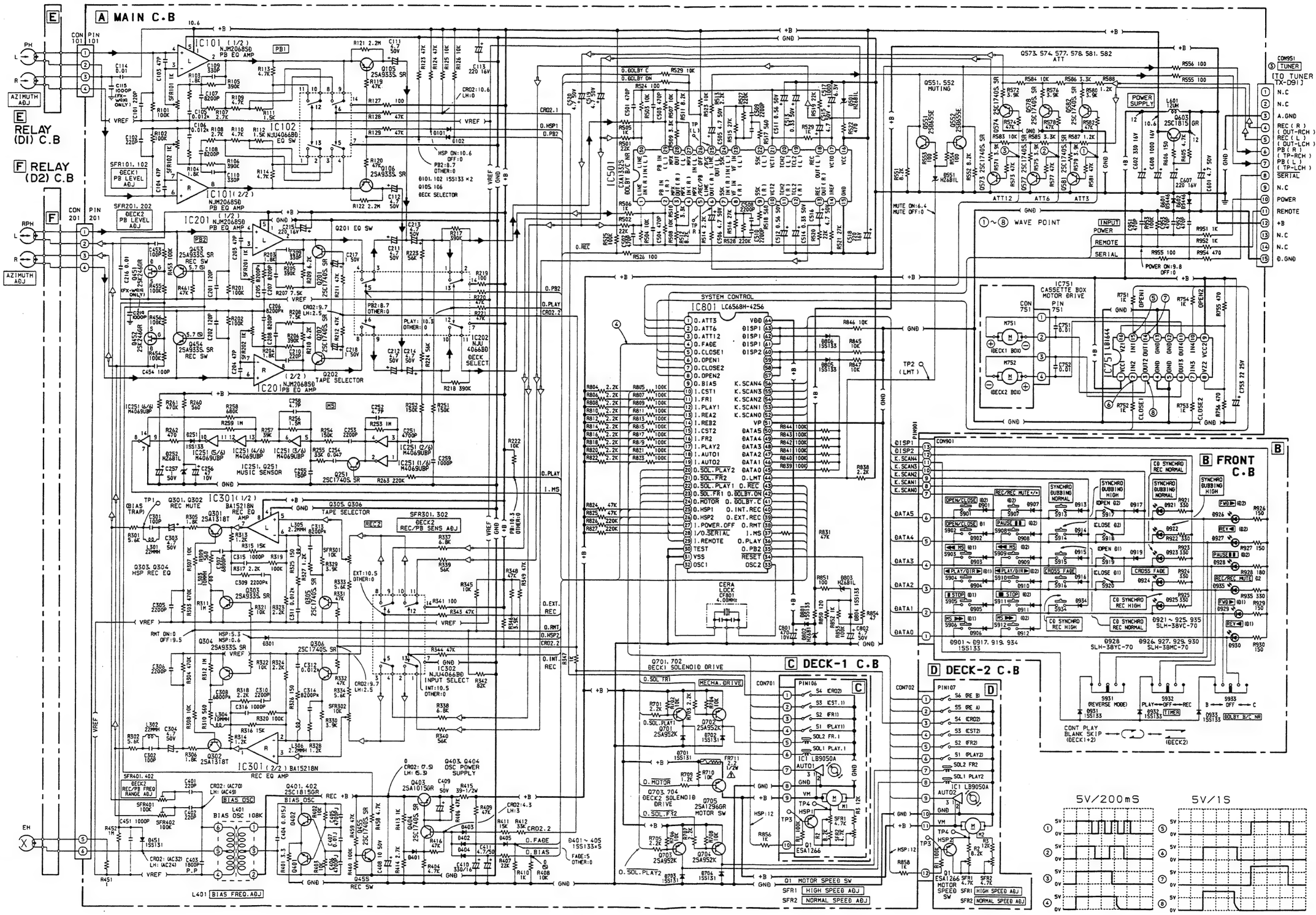
REF.NO.	PART NO.	DESCRIPTION
	=== IC ===	
	87-001-440-010	IC,BA15218N
	87-001-908-010	IC,CXA1332S
	87-001-873-010	IC,LB1644
	S6-804-060-020	IC,LB9050A
	89-VW5-605-010	IC,LC6568H-4256
	87-020-533-010	IC,M4069UBP
	87-020-758-010	IC,NJM2068SD
	87-020-908-010	IC,NJU4066BD
	=== TRANSISTOR ===	
	89-502-465-019	FET,2SK246GR
	87-026-463-010	TRANSISTOR,2SA933S(SR)
	89-109-521-010	TRANSISTOR,2SA952K
	89-110-155-010	TRANSISTOR,2SA1015GR
	89-112-965-010	TRANSISTOR,2SA1296GR
	89-113-184-010	TRANSISTOR,2SA1318T
	87-026-462-010	TRANSISTOR,2SC1740S(SR)
	89-318-155-010	TRANSISTOR,2SC1815GR
	89-406-555-010	TRANSISTOR,2SD655E
	S6-804-050-040	TRANSISTOR,ESA1266
	=== DIODE ===	
	87-001-559-010	DIODE,1SS131
	87-020-465-010	DIODE,1SS133
	87-020-123-010	DIODE,DS446
	87-027-475-010	DIODE,ZENER HZ6B1
	87-027-332-010	DIODE,ZENER HZ6B1L
	=== MAIN CIRCUIT BOARD SECTION ===	
C101	★87-018-123-010	CAP,CERA-SOL 220P-50
C102	★87-018-123-010	CAP,CERA-SOL 220P-50
C103	★87-018-115-010	CAP,CERA-SOL 47P-50 SL
C104	★87-018-115-010	CAP,CERA-SOL 47P-50 SL
C111	★87-010-404-010	CAP,ELECT 4.7-50 SME
C112	★87-010-404-010	CAP,ELECT 4.7-50 SME
C113	★87-010-101-010	CAP,ELECT 220-16 SME
C114	★87-018-134-010	CAP,CERA-SOL SS 0.01-16
C115	★87-018-131-010	CAP,CERA-SOL 1000P-50(W919)
C201	★87-018-120-010	CAP,CERA-SOL 330P-50
C202	★87-018-120-010	CAP,CERA-SOL 330P-50
C203	★87-018-115-010	CAP,CERA-SOL 47P-50 SL
C204	★87-018-115-010	CAP,CERA-SOL 47P-50 SL
C209	★87-018-123-010	CAP,CERA-SOL 220P-50
C210	★87-018-123-010	CAP,CERA-SOL 220P-50
C211	★87-010-404-010	CAP,ELECT 4.7-50 SME
C212	★87-010-404-010	CAP,ELECT 4.7-50 SME
C213	★87-010-404-010	CAP,ELECT 4.7-50 SME
C214	★87-010-404-010	CAP,ELECT 4.7-50 SME
C215	★87-010-101-010	CAP,ELECT 220-16 SME
C216	★87-018-134-010	CAP,CERA-SOL SS 0.01-16
C217	★87-010-401-010	CAP,ELECT 1-50 SME
C218	★87-010-401-010	CAP,ELECT 1-50 SME
C219	★87-018-131-010	CAP,CERA-SOL 1000P-50(W919)
C251	★87-018-133-010	CAP,CERA-SOL 4700P-16
C252	★87-018-100-010	CAP,CERA-SOL 4.7P-50 SL
C253	★87-018-132-010	CAP,CERA-SOL 2200P-16
C255	★87-018-121-010	CAP,CERA-SOL 150P-50
C256	★87-010-374-010	CAP,ELECT 47-10
C257	★87-010-401-010	CAP,ELECT 1-50 SME
C258	★87-018-100-010	CAP,CERA-SOL 4.7P-50 SL
C259	★87-018-131-010	CAP,CERA-SOL 1000P-50
C301	★87-018-119-010	CAP,CEAR-SOL 100P-50

REF.NO.	PART NO.	DESCRIPTION
C302	★87-018-119-010	CAP,CEAR-SOL 100P-50
C303	★87-010-404-010	CAP,ELECT 4.7-50 SME
C304	★87-010-404-010	CAP,ELECT 4.7-50 SME
C305	★87-018-132-010	CAP,CERA-SOL 2200P-16
C306	★87-018-132-010	CAP,CERA-SOL 2200P-16
C315	★87-018-131-010	CAP,CERA-SOL 1000P-50
C316	★87-018-131-010	CAP,CERA-SOL 1000P-50
C401	★87-018-123-010	CAP,CERA-SOL 220P-50
C402	★87-018-123-010	CAP,CERA-SOL 220P-50
C403	★87-014-063-010	CAP,PP 1800P
C408	★87-010-405-010	CAP,ELECT 10-50 SME
C409	★87-010-401-010	CAP,ELECT 1-50 SME
C410	★87-010-381-010	CAP,ELECT 330-16 SME
C411	★87-010-404-010	CAP,ELECT 4.7-50 SME
C451	★87-018-131-010	CAP,CERA-SOL 1000P-50
C453	★87-018-119-010	CAP,CEAR-SOL 100P-50
C454	★87-018-119-010	CAP,CEAR-SOL 100P-50
C501	★87-018-127-010	CAP,CERA-SOL 470P-50
C502	★87-018-127-010	CAP,CERA-SOL 470P-50
C503	★87-018-127-010	CAP,CERA-SOL 470P-50
C504	★87-018-127-010	CAP,CERA-SOL 470P-50
C505	★87-010-404-010	CAP,ELECT 4.7-50 SME
C506	★87-010-404-010	CAP,ELECT 4.7-50 SME
C507	★87-018-132-010	CAP,CERA-SOL SS 2200P-16
C508	★87-018-132-010	CAP,CERA-SOL SS 2200P-16
C509	★87-018-132-010	CAP,CERA-SOL SS 2200P-16
C510	★87-018-132-010	CAP,CERA-SOL SS 2200P-16
C511	★87-010-808-010	CAP,ELECT 0.56-50 SME
C512	★87-010-808-010	CAP,ELECT 0.56-50 SME
C513	★87-010-546-010	CAP,ELECT 0.33-50 SME
C514	★87-010-546-010	CAP,ELECT 0.33-50 SME
C515	★87-010-404-010	CAP,ELECT 4.7-50 SME
C516	★87-010-404-010	CAP,ELECT 4.7-50 SME
C517	★87-010-252-010	CAP,ELECT 1000-6.3
C518	★87-010-101-010	CAP,ELECT 220-16 SME
C519	★87-010-404-010	CAP,ELECT 4.7-50 SME
C520	★87-010-404-010	CAP,ELECT 4.7-50 SME
C601	★87-010-404-010	CAP,ELECT 4.7-50 SME
C602	★87-010-381-010	CAP,ELECT 330-16 SME
C607	★87-010-101-010	CAP,ELECT 220-16 SME
C608	★87-010-237-010	CAP,ELECT 1000-16
C751	★87-018-134-010	CAP,CERA-SOL 0.01-16
C752	★87-018-134-010	CAP,CERA-SOL 0.01-16
C753	★87-010-382-010	CAP,ELECT 22-25 SME
C801	★87-010-221-010	CAP,ELECT 470-10
C802	★87-010-404-010	CAP,ELECT 4.7-50 SME
CF801	★87-030-167-010	CERA LOCK CST4.0MHZ
⚠FR711	87-029-019-010	RES,FUSE 2.2-1/2W
L301	★82-231-629-010	COIL 22MMH
L302	★82-231-629-010	COIL 22MMH
L303	★87-003-131-010	COIL 10MMH
L304	★87-003-131-010	COIL 10MMH
L305	★87-003-123-010	COIL 2.2MMH
L306	★87-003-123-010	COIL 2.2MMH
L401	★81-693-608-010	COIL OSC BIAS 108K
L601	★87-003-060-010	COIL 12UH
SFR101	★87-024-168-010	SFR 1K
SFR102	★87-024-168-010	SFR 1K
SFR201	★87-024-168-010	SFR 1K
SFR202	★87-024-168-010	SFR 1K
SFR301	★87-024-172-010	SFR 10K
SFR302	★87-024-172-010	SFR 10K
SFR401	★87-024-176-010	SFR 100K
SFR402	★87-024-176-010	SFR 100K

REF.NO.	PART NO.	DESCRIPTION
	=== FRONT CIRCUIT BOARD SECTION ===	
C951	★87-018-127-010	CAP,CERA-SOL 470P-50
C952	★87-018-127-010	CAP,CERA-SOL 470P-50
C953	★87-018-127-010	CAP,CERA-SOL 470P-50
D921	89-VW5-607-010	LED SLH-38VC(SYNC.DUBB.NORM.)
D922	89-VW5-607-010	LED SLH-38VC(SYNC.DUBB.NORM.)
D923	89-VW5-607-010	LED SLH-38VC(CD.SYNC REC NORM.)
D924	89-VW5-607-010	LED SLH-38VC(CROSS FADE)
D925	89-VW5-607-010	LED SLH-38VC(CD.SYNC REC HIGH)
D926	89-VW5-606-010	LED SLH-38MC(FWD,D2)
D927	89-VW5-606-010	LED SLH-38MC(REV,D2)
D928	89-VW5-608-010	LED SLH-38YC(PAUSE,D2)
D929	89-VW5-606-010	LED SLH-38MC(FWD,D1)
D930	89-VW5-606-010	LED SLH-38MC(REV,D1)
D935	89-VW5-607-010	LED SLH-38VC(REC/REC MUTE,D2)
S901	87-036-142-010	TACT SW(OPEN/CLOSE,D2)
S902	87-036-142-010	TACT SW(OPEN/CLOSE,D1)
S903	87-036-142-010	TACT SW(⏮MS,D1)
S904	87-036-142-010	TACT SW(PLAY/DIR,D1)
S905	87-036-142-010	TACT SW(STOP,D1)
S906	87-036-142-010	TACT SW(MS⏭,D1)
S907	87-036-142-010	TACT SW(REC/REC MUTE,D2)
S908	87-036-142-010	TACT SW(PAUSE,D2)
S909	87-036-142-010	TACT SW(MS⏮,D2)
S910	87-036-142-010	TACT SW(PLAY/DIR,D2)
S911	87-036-142-010	TACT SW(STOP,D2)
S912	87-036-142-010	TACT SW(MS⏭,D2)
S913	87-036-142-010	TACT SW(SYNC.DUBB.NORM.)
S914	87-036-142-010	TACT SW(SYNC.DUBB.HIGH)
S915	87-036-142-010	TACT SW(CD SYNC.REC NORM.)
S916	87-036-142-010	TACT SW(CROSS FADE)
S917	87-036-110-010	PUSH SW(OPEN,D2)
S918	87-036-109-010	PUSH SW(CLOSE,D2)
S919	87-036-109-010	PUSH SW(OPEN,D1)
S920	87-036-110-010	PUSH SW(CLOSE,D1)
S931	87-036-087-010	SLIDE SW(REV MODE)
S932	87-036-087-010	SLIDE SW(TIMER)
S933	87-036-087-010	SLIDE SW(DOLBY-B/C NR)
S934	87-036-142-010	TACT SW(CD SYNC.REC HIGH)
	=== DECK-1 CIRCUIT BOARD SECTION ===	
S1	S6-401-011-740	LEAF SW(PLAY)
S2	S6-401-011-750	LEAF SW(FR)
S3	S6-401-011-730	LEAF SW(CST)
S4	S6-401-011-730	LEAF SW(CR02)
SFR1	★S6-816-010-010	SFR 4.7K
SFR2	★S6-816-010-010	SFR 4.7K
SOL1	S1-880-210-130	SOLENOID(PLAY)
SOL2	S1-880-210-130	SOLENOID(F/R)
	=== DECK-2 CIRCUIT BOARD SECTION ===	
S1	S6-401-011-740	LEAF SW(PLAY)
S2	S6-401-011-750	LEAF SW(FR)
S3	S6-401-011-730	LEAF SW(CST)
S4	S6-401-011-730	LEAF SW(CR02)
S5	S6-401-011-730	LEAF SW(REA)
S6	S6-401-011-730	LEAF SW(REB)
SFR1	★S6-816-010-010	SFR 4.7K
SFR2	★S6-816-010-010	SFR 4.7K
SOL1	S1-880-210-130	SOLENOID(PLAY)
SOL2	S1-880-210-130	SOLENOID(F/R)
	=== RELAY(D1) CIRCUIT BOARD SECTION ===	

REF.NO.	PART NO.	DESCRIPTION
	=== RELAY(D2) CIRCUIT BOARD SECTION ===	
	=== MISCELLANEOUS ===	
CON951	89-VW5-610-010	CORD,FG 15P(3.TUNER)
M1	S6-005-030-420	MOTOR MMI-6H2LWK(D1)
M2	S6-005-030-420	MOTOR MMI-6H2LWK(D2)
M751	87-045-305-010	MOTOR RF-500TB(D1)(BOX)
M752	87-045-305-010	MOTOR RF-500TB(D2)(BOX)
PH	S6-204-070-090	PB HEAD(D1)
RPEH	S6-204-040-010	R/P/E,HEAD(D2)

SCHEMATIC DIAGRAM (FX – W91/W919)



A MAIN C.B

(3) TUNER
To TUNER TX-D91

CON951

To E FRONT C.B
CON901

To D DECK-2 C.B PIN107

To C DECK-1 C.B PIN106

To CHASSIS GND (FX-W919 ONLY)

To F RELAY (D2) C.B CON201

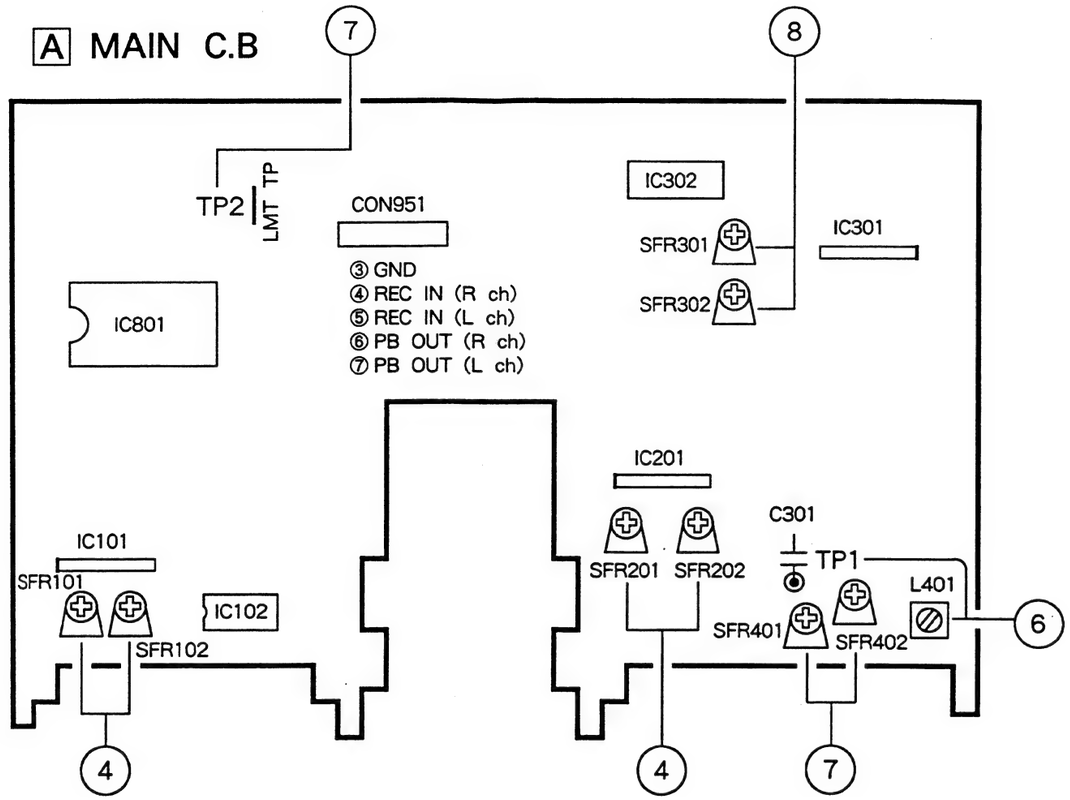
To E RELAY (D1) C.B CON101

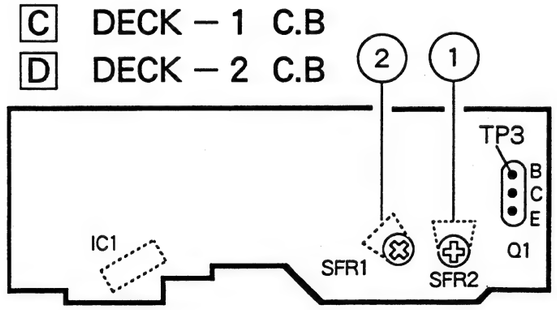
M752 (LOADING MOTOR, D2)

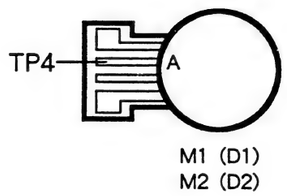
M751 (LOADING MOTOR, D1)

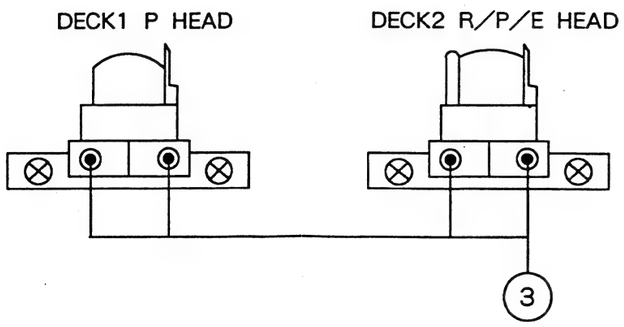
GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

(プリント基板内のケミコンの極性表示は⊖表示です。)









1. Normal Speed Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 100 (TTA – 111S)
   • Test point : PB – OUT (CON951)
   • Adjustment Location : SFR2 (DECK1, 2)
   Method : Play back the test tape, adjust for 3000Hz.

2. High Speed Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 100 (TTA – 111S)
   • Test point : PB – OUT (CON951)
   • Adjustment Location : SFR1 (DECK1, 2)
   Method : Play back the test tape, and make the high speed condition to be shorted between TP3 and TP4. Adjust for 5400Hz ± 15Hz.

3. Head Azimuth Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTS – 310
   (TTA – 317E, SCC – 1429)
   • Test point : PB – OUT (CON951)
   • Adjustment Location : Head azimuth adjustment screw
   Method : Play back the 10kHz signal of the test tape and adjust so that the output becomes maximum.
   Next, perform on each FWD PLAY and REV PLAY mode.

4. PB Level Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTS – 200 (TTA – 161, TCC – 130)
   • Test point : PB – OUT (CON951)
   • Adjustment Location : SFR101 (DECK1, Lch)
   SFR102 (DECK1, Rch)
   SFR201 (DECK2, Lch)
   SFR202 (DECK2, Rch)
   Method : Play back the test tape and adjust so that the output becomes 300mV ± 20mV.

5. PB Frequency Response Check (DECK1, DECK2)
   Settings : • Test tape : TTS – 310
   (TTA – 317E, SCC – 1429)
   • Test point : PB – OUT (CON951)
   Method : Play the 315Hz and 10kHz signals of the test tape and check the output of the 10kHz signal is 0dB ± 2.5dB with respect to that of the 315Hz signal.

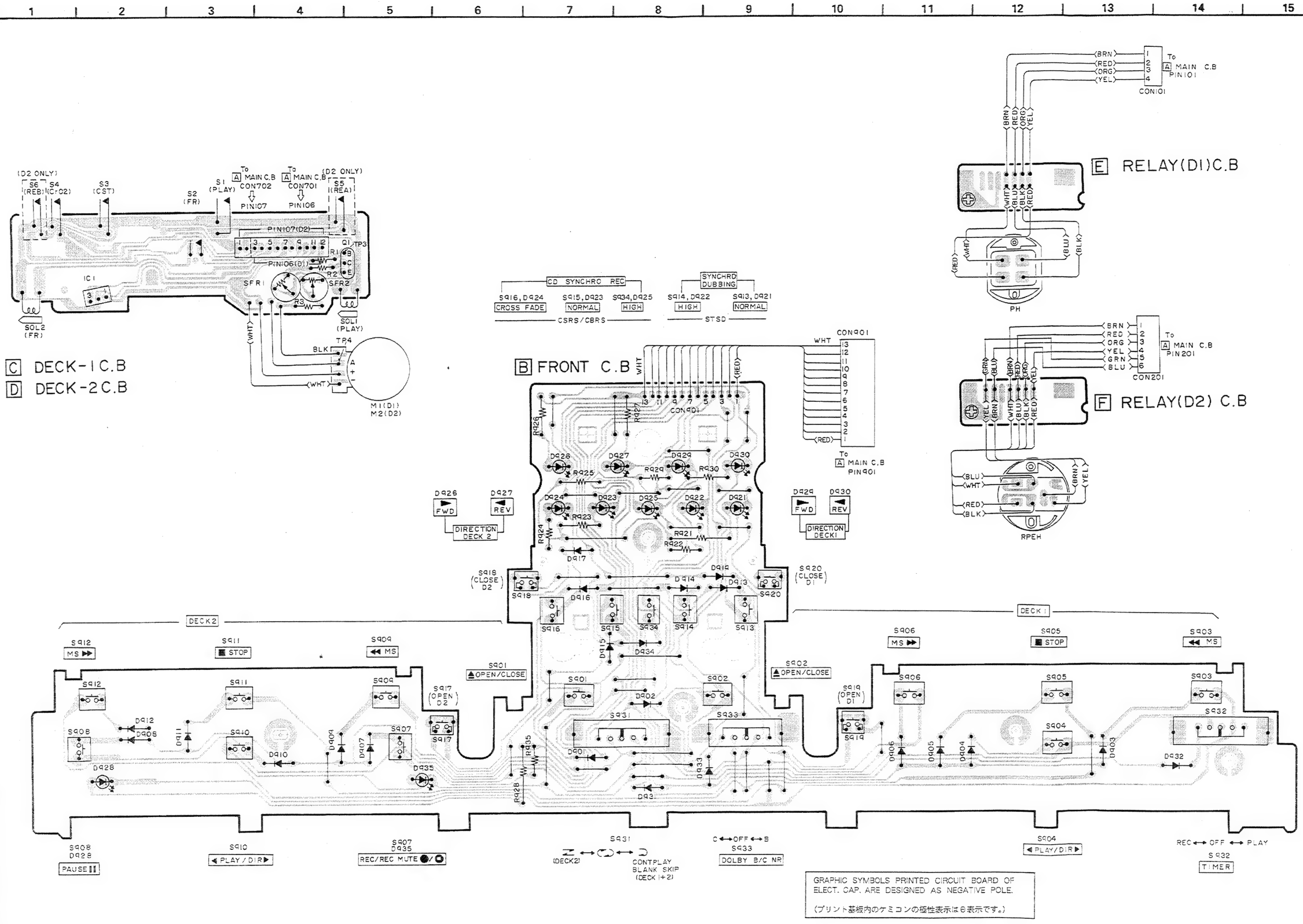
6. Bias Frequency Adjustment (DECK2)
   Settings : • Test tape : TTA – 600 (TTA – 119K)
   • Test point : TP1
   • Adjustment Location : L401
   Method : Set DECK2 to the record mode and adjust L401 so that the frequency at TP1 is 108kHz ± 1kHz.

7. REC/PB Frequency Response Adjustment (DECK2)
   Settings : • Test tape : TTA – 600 (TTA – 119K)
   • Test point : PB – OUT (CON951)
   • Input signal : REC – IN (CON951)
   • Adjustment Location : SFR401 (Lch)
   SFR402 (Rch)
   Method : Connect TP2 (LMT TP) to ground (chassis), apply a 1kHz signal and adjust attenuator so that the level at the PB OUT is 21mV.
   Record and play back the 1kHz and 10kHz signals and adjust so that the output level of 10kHz signal is 0dB + 2dB, – 0.5dB for 1kHz signal. After adjustment, remove the grounding lead wire.

8. REC/PB Sensitivity Adjustment (DECK2)
   Settings : • Test tape : TTA – 600 (TTA – 119K)
   • Test point : PB – OUT (CON951)
   • Input signal : REC – IN (CON951)
   • Adjustment Location : SFR301 (Lch)
   SFR302 (Rch)
   Method : Connect TP2 (LMT TP) to ground (chassis), apply a 1kHz signal and adjust attenuator so that the level at the PB OUT is 21mV.
   Record and play back the 1kHz signal and adjust SFR301 and SFR302 so that the output level of is 21mV ± 1.5dB. After adjustment, remove the grounding lead wire.

PRACTICAL SERVICE FIGURE (FX – W91/W919)

PB output level :	300mV ± 1dB TTS – 200 (TTA – 161, TCC – 130)
REC/PB output level :	210mV ± 1dB (PB OUT, – 16.5dBV 1kHz)
Distortion (REC/PB) :	Less than 2.0% (NORM., CrO2)
Erasing ratio :	More than 60dB
Crosstalk :	More than 60dB
Channel separation :	More than 30dB
Noise (REC/PB) :	Less than 3.3mV/1.6mV/1.3mV (DOLBY OFF/B/C NORM.) Less than 2.2mV/1.3mV/1.0mV (DOLBY OFF/B/C CrO2)
Noise (PB) :	Less than 3.2mV/1.5mV/1.2mV (DOLBY OFF/B/C NORM.) Less than 2.2mV/1.2mV/1.0mV (DOLBY OFF/B/C CrO2)
Recording bias frequency :	108kHz
Tape speed :	3000Hz ± 1.5%
Wow & flutter (W.RMS) :	Less than 0.135% (DECK1, 2)
Take – up torque :	30~60g-cm (DECK1, 2)
F.F & REW torque :	55~120g-cm (DECK1, 2)
Back tension :	2~6g-cm (DECK1, 2)
Test tape :	NORMAL : TTA – 600 (TTA – 119K) CrO2 : TTA – 610 (TTA – 119H)


C DECK-1 C.B
D DECK-2 C.B
B FRONT C.B
E RELAY(D1)C.B
F RELAY(D2) C.B
(D2 ONLY)
S6 (REB)
S4 (CUE2)
S3 (CST)
S2 (FR)
S1 (PLAY)
S5 (REA)
To A MAIN C.B CON702 PIN107
To A MAIN C.B CON701 PIN106
PIN107(D2)
PIN106(D1)
IC1
TP3
TP4
SFR1
SFR2
RS
R1
R2
SOL2 (FR)
SOL1 (PLAY)
BLK
WHT
M1(D1) M2(D2)
CD SYNCHRO REC
S916, D924 CROSS FADE
S915, D923 NORMAL
S934, D925 HIGH
CSRS/CBRS
SYNCHRD DUBBING
S914, D922 HIGH
S913, D921 NORMAL
STSD
CON901
To A MAIN C.B PIN901
R426
R427
D926 FWD
D927 REV
DIRECTION DECK 2
D929 FWD
D930 REV
DIRECTION DECK1
R925
R929
R930
R923
R924
R921
R922
D917
D916
D914
D913
D915
D934
S918 (CLOSE) D2
S920 (CLOSE) D1
S916
S915
S934
S914
S913
DECK2
DECK1
S912 MS
S911 STOP
S909 MS
S901 OPEN/CLOSE
S902 OPEN/CLOSE
S906 MS
S905 STOP
S903 MS
S917 (OPEN) D2
S919 (OPEN) D1
D912
D908
D911
D910
D909
D907
D935
D901
D902
D931
D933
D906
D905
D904
D903
D932
R935
R928
S908 D928 PAUSE
S910 PLAY/DIR
S907 D935 REC/REC MUTE
S931 (DECK2) CONTPLAY BLANK SKIP (DECK 1+2)
C←→OFF←→B S933 DOLBY B/C NR
S904 PLAY/DIR
REC←→OFF←→PLAY S932 TIMER
CON101
To A MAIN C.B PIN101
CON201
To A MAIN C.B PIN201
PH
RPEH
GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示は⊖表示です。)

IC DESCRIPTION (FX－W91／W919)

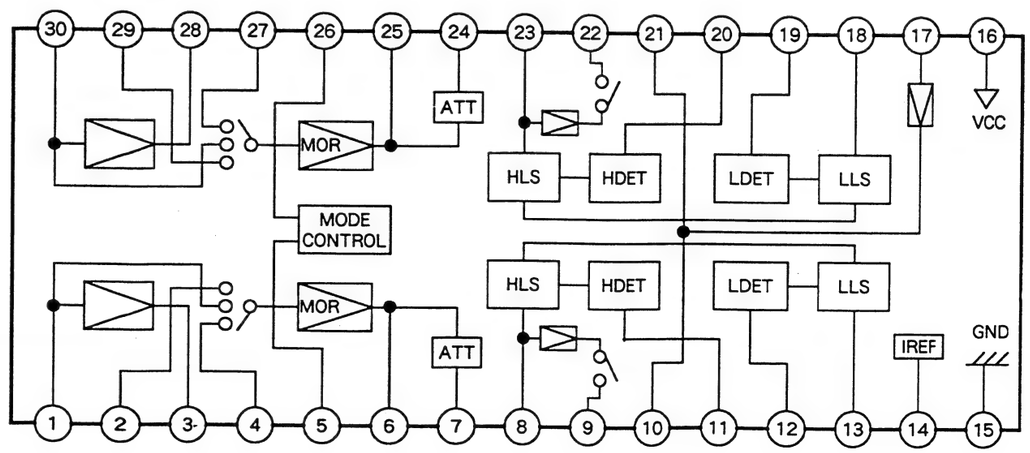
IC,LC6568H－4256

Pin No.	Pin Name	I/O	Description
1	O・ATT3	O	Input signal level control output from the cross fade. Active "H".
2	O・ATT6	O	
3	O・ATT12	O	
4	O・FADE	O	DECK 2 Recording bias oscillation output at the CBRS and cross fade. Active "H".
5	O・CLOSE1	O	DECK 1 Cassette box motor drive control output. Active "H".
6	O・OPEN1	O	
7	O・CLOSE2	O	DECK 2 Cassette box motor drive control output. Active "H".
8	O・OPEN2	O	
9	O・BIAS	O	DECK 2 Recording bias oscillation output. Goes "H" in the record and dubbing modes.
10	I・CST1	I	DECK 1 Cassette tape detection switching input. Goes "L" switch on.
11	I・FR1	I	DECK 1 FF and FWD detection switching input. Goes "L" FF or RWD switch on.
12	I・PLAY1	I	DECK 1 PLAY detection switching input. Goes "L" PLAY switch on.
13	I・REA2	I	DECK 2 Side A's accidental erasure prevention switch input. Goes "L" when recording is possible.
14	I・REB2	I	DECK 2 Side B's accidental erasure prevention switch input. Goes "L" when recording is possible.
15	I・CST2	I	DECK 2 Cassette tape detection switching input. Goes "L" switch on.
16	I・FR2	I	DECK 2 FF and RWD detection switching input. Goes "L" FF or RWD switch on.
17	I・PLAY2	I	DECK 2 PLAY detection switching input. Goes "L" PLAY switch on.
18	I・AUTO1	I	DECK 1 Reel disk pulse input.
19	I・AUTO2	I	DECK 2 Reel disk pulse input.
20	O・$\overline{\text{SOL・PLAY2}}$	O	DECK 2 PLAY solenoid drive output. Active "L".
21	O・$\overline{\text{SOL・FR2}}$	O	DECK 2 FF and RWD solenoid drive output. Active "L".
22	O・$\overline{\text{SOL・PLAY1}}$	O	DECK 1 PLAY solenoid drive output. Active "L".
23	O・$\overline{\text{SOL・FR1}}$	O	DECK 1 FF and RWD solenoid drive output. Active "L".
24	O・$\overline{\text{MOTOR}}$	O	DECK 1/2 Main motor control output. Goes "L" in the STOP mode.
25	O・HSP1	O	DECK 1 High speed control output. Goes "H" in the high speed dubbing mode.
26	O・HSP2	O	DECK 2 High speed control output. Goes "H" in the high speed dubbing mode. (Tape deck and CD)
27	I・POWER OFF	I	Power off signal input. Goes "L" when off.
28	I/O $\overline{\text{SERIAL}}$	I/O	CD and amplifier serial data input and output.
29	I・REMOTE	I	Remote control serial data input.
30	TEST	－	MPU test pin to be connected to VSS.
31	VSS	－	MPU I/O and power supply common pin.
32	OSC1	－	Pins to generate a 4MHz clock signal.
33	OSC2	－	
34	$\overline{\text{RESET}}$	I	MPU reset input. Goes "L" input resets the MPU.
35	O・PB2	O	DECK 1/2 PB output level control pin. Goes "H" in the DECK 2 PB.
36	O・PLAY	O	CUE/REVIEW muting and MS sensitivity switching output. Goes "H" PB.
37	I・MS	I	MS signal input. Active "H".
38	O・RMT	O	Record muting output. Goes "H" in the REC mute, recording I/O and REC pause.
39	O・EXT・REC	O	DECK 2 Recording switching output. Goes "H" DECK 1 PB and DECK 2 REC.
40	O・INT・REC	O	DECK 2 Recording switching output. Goes "H" in the record and dubbing modes. Goes "L" in the O・EXT・REC "H".
41	O・$\overline{\text{DOLBY C}}$	O	Dolby NR B/C switching output. Goes "H" Dolby C.
42	O・$\overline{\text{DOLBY ON}}$	－	Dolby NR ON/OFF switching output. Goes "H" Dolby on.
43	O・$\overline{\text{REC}}$	O	Dolby encode/decode switching output. Goes "H" REC, "L" dubbing.
44	O・LMT	O	Record and playback muting output. Active "H".

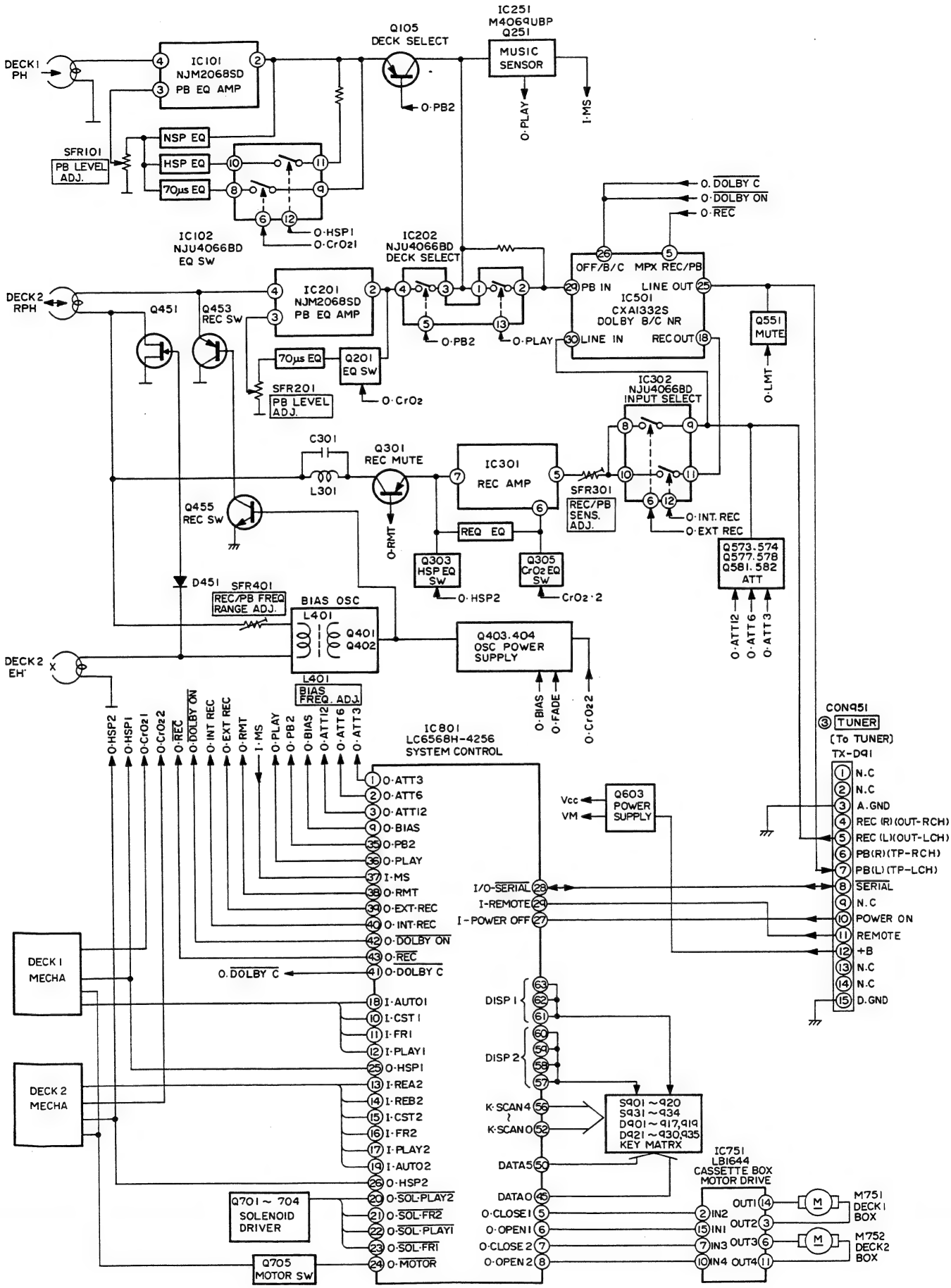
Pin No.	Pin Name	I/O	Description KEY DATA IN						
			KSCAN0 is "H"	KSCAN1 is "H"	KSCAN2 is "H"	KSCAN3 is "H"	KSCAN4 is "H"	DISP1 lights at "H"	DISP2 lights at "H"
45	DATA0	I	OPEN/CLOSE 2 KEY IN	REC2 KEY IN	N・DUBB KEY IN	BOX OPEN 2 KEY IN	CONT PLAY BLANK SKIP SW IN	N・DUBB lights	F・PLAY2 lights
46	DATA1	I	OPEN/CLOSE 1 KEY IN	PAUSE2 KEY IN	H・DUBB KEY IN	BOX CLOSE 2 KEY IN	⇄ SW IN	H・DUBB lights	R・PLAY2 lights
47	DATA2	I	RWD1 KEY IN	RWD2 KEY IN	CD・REC KEY IN	BOX OPEN 1 KEY IN	TIMER PLAY SW IN	CD・REC lights	PAUSE2 lights
48	DATA3	I	PLAY1 KEY IN	PLAY2 KEY IN	CROSS FADE KEY IN	BOX CLOSE 1 KEY IN	TIMER REC SW IN	CROSS FADE lights	REC2 lights
49	DATA4	I	STOP1 KEY IN	STOP2 KEY IN	CD・HSP・REC KEY IN		DOLBY B SW IN	CD・HSP・REC lights	F・PLAY1 lights
50	DATA5	I	FF1 KEY IN	FF2 KEY IN					R・PLAY1 lights
51	VP	－	GND.						
52	K・SCAN0	O	KEY SCAN outputs for DATA 0～DATA 5. These pins output "H" when reset.						
53	K・SCAN1	O							
54	K・SCAN2	O							
55	K・SCAN3	O							
56	K・SCAN4	O							
57	DISP2	O	DISP 2 INDI. output pin.						
58	DISP2	O							
59	DISP2	O							
60	DISP2	O							
61	DISP1	O	DISP 1 INDI. output pin.						
62	DISP1	O							
63	DISP1	O							
64	VDD	－	Power supply pin. (+5V)						

IC BLOCK DIAGRAM (FX－W91／FX－W919)

IC,CXA1332

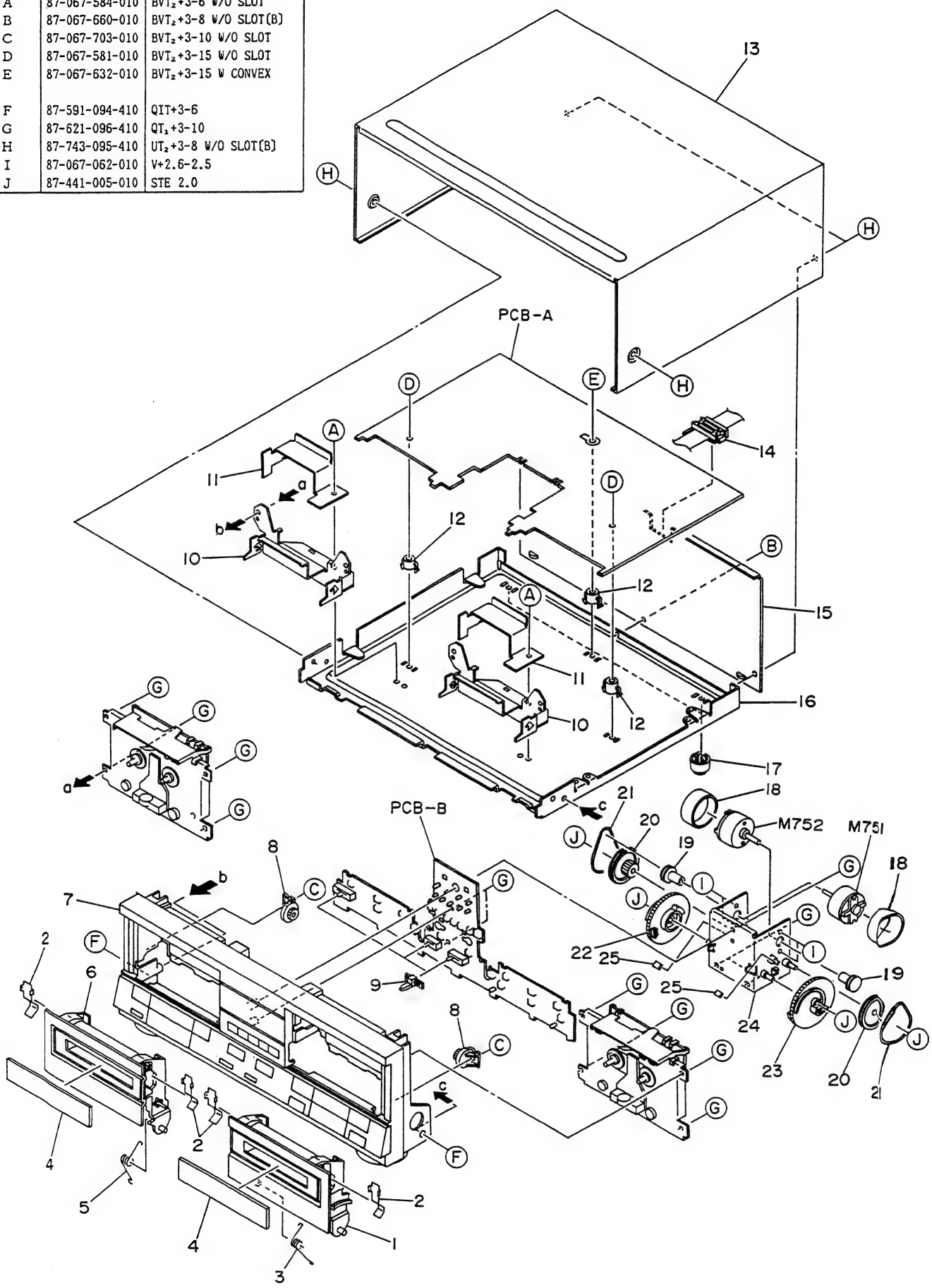


BLOCK DIAGRAM (FX – W91/W919)



EXPLODED VIEW – 1 (FX – W91/W919)

REF.NO.	PART NO.	DESCRIPTION
A	87-067-584-010	BVT_2+3-6 W/O SLOT
B	87-067-660-010	BVT_2+3-8 W/O SLOT(B)
C	87-067-703-010	BVT_2+3-10 W/O SLOT
D	87-067-581-010	BVT_2+3-15 W/O SLOT
E	87-067-632-010	BVT_2+3-15 W CONVEX
F	87-591-094-410	QIT+3-6
G	87-621-096-410	QT_1+3-10
H	87-743-095-410	UT_2+3-8 W/O SLOT(B)
I	87-067-062-010	V+2.6-2.5
J	87-441-005-010	STE 2.0

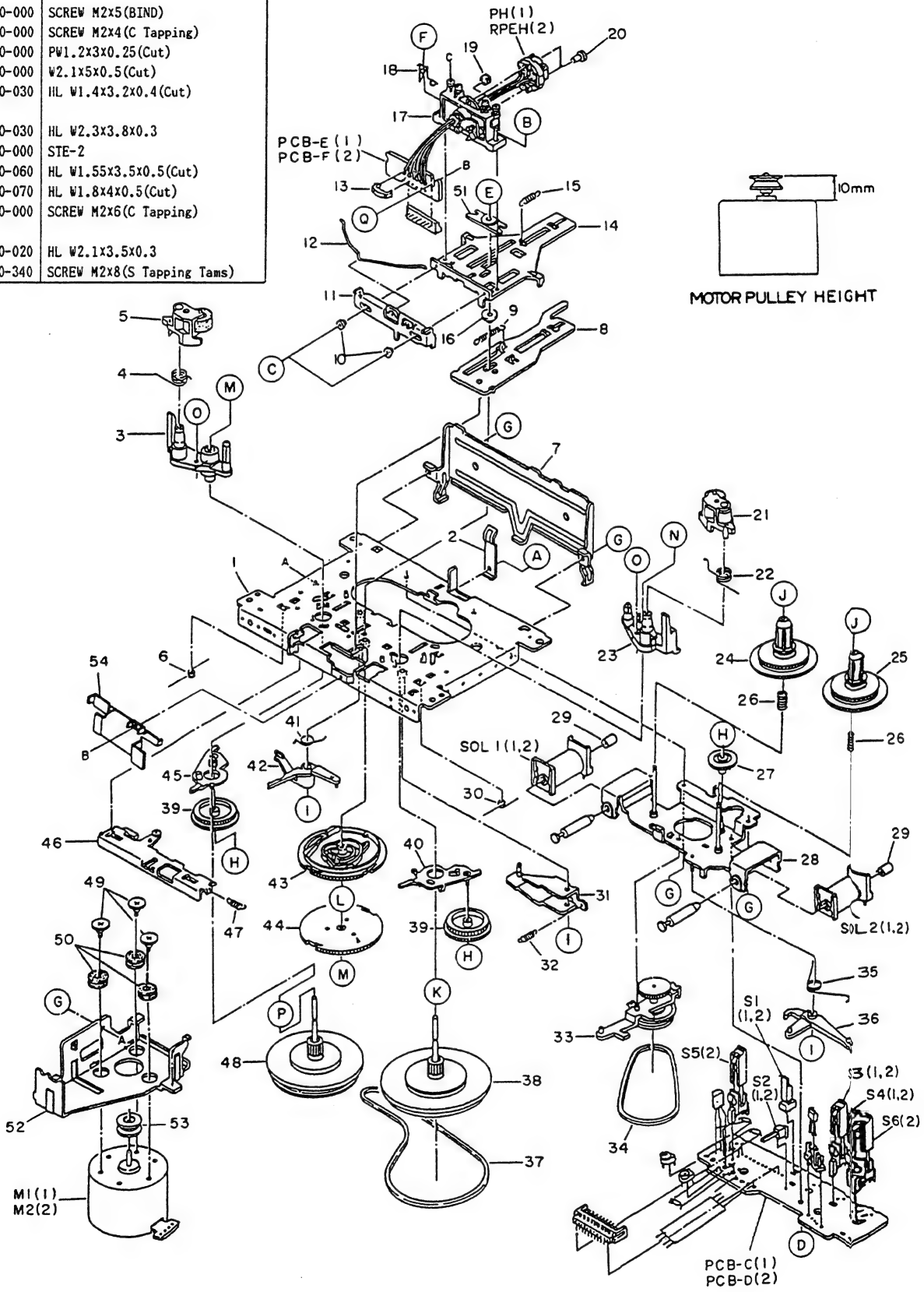


MECHANICAL PARTS LIST (FX – W91/FX – W919)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	1-1	★89-VW5-004-219	BOX,CASSETTE 2	*	1
	1-2	★82-202-217-110	P-SPRING,CASSETTE HOLDER		4
	1-3	★89-VW5-203-019	T-SPRING,EJECT 2	*	1
	1-4	★89-VW5-016-019	WINDOW 1	*	2
	1-5	★89-VW5-202-010	T-SPRING,EJECT 1	*	1
	1-6	★89-VW5-003-219	BOX,CASSETTE 1	*	1
	1-7	★09-047-559-010	CABINET FRONT ASSY(W919Y,YJ)	*	1
	1-7	★09-047-563-010	CABINET FRONT ASSY(W91YK)	*	1
	1-7	★09-047-564-010	CABINET FRONT ASSY(W91YU)	*	1
	1-8	★87-063-144-010	OIL-DUMPER 37		2
	1-9	★89-VW5-011-019	KNOB,SLIDE	*	3
	1-10	★89-VW5-201-010	HOLDER,MECHANISM	*	2
	1-11	★89-VW5-214-019	SHIELD PLATE,DECK	*	2
	1-12	★81-664-202-010	HOLDER,P.C.B		3
	1-13	★89-VW5-018-010	CABINET,STEEL	*	1
	1-14	★89-VT5-202-010	BUSHING,CORD		1
	1-15	★89-VW5-023-010	PANEL,REAR(W919Y)	*	1
	1-15	★89-VW5-029-010	PANEL,REAR(W919YJ)	*	1
	1-15	★89-VW5-024-010	PANEL,REAR(W91YK)	*	1
	1-15	★89-VW5-028-010	PANEL,REAR(W919YU)	*	1
	1-16	---	CHASSIS,AMP		1
	1-17	★87-085-213-019	FOOT,H12.5		2
	1-18	★82-110-647-010	SHIELD,PLATE M		2
	1-19	★89-VW5-206-019	PULLEY,MOTOR	*	2
	1-20	★89-VW5-204-119	PULLEY,LOADING	*	2
	1-21	★89-VW5-216-110	BELT,SQ1.5	*	2
	1-22	★89-VW5-211-019	GEAR,CAM 1	*	1
	1-23	★89-VW5-205-019	GEAR,CAM 2	*	1
	1-24	★89-VW5-207-110	LOADING HOLDER ASSY	*	1
	1-25	★82-679-233-010	G-CUSHION		2

EXPLODED VIEW – 2 (FX – W91／W919)

REF.NO.	PART NO.	DESCRIPTION
A	S9-178-000-000	SPECIAL SCREW M2x3(C Tapping)
B	S9-078-000-000	SCREW M2x5(Tams)
C	S9-547-000-000	SCREW M1.7x3(Camera)
D	S9-999-200-200	SCREW M2x5(S Tapping Tams)
E	S9-999-180-160	SPECIAL SCREW M2x5
F	S9-117-000-000	SCREW M2x5(BIND)
G	S9-180-000-000	SCREW M2x4(C Tapping)
H	S9-421-000-000	PW1.2x3x0.25(Cut)
I	S9-876-000-000	W2.1x5x0.5(Cut)
J	S9-999-700-030	HL W1.4x3.2x0.4(Cut)
K	S9-999-600-030	HL W2.3x3.8x0.3
L	S9-502-000-000	STE-2
M	S9-999-700-060	HL W1.55x3.5x0.5(Cut)
N	S9-999-700-070	HL W1.8x4x0.5(Cut)
O	S9-182-000-000	SCREW M2x6(C Tapping)
P	S9-999-600-020	HL W2.1x3.5x0.3
Q	S9-999-200-340	SCREW M2x8(S Tapping Tams)



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	2-1	---	CHASSIS ASSY		1
	2-2	★S1-829-100-010	SPRING,PACK		1
	2-3	★S1-880-090-090	FL METAL R ASSY		1
	2-4	★S1-880-040-040	P-SPRING,ARM R		1
	2-5	S1-880-043-020	PINCH ROLLER ARM R ASSY		1
	2-6	★S1-880-050-190	SPRING,TRIGGER ARM R		1
	2-7	★S1-880-530-020	PROTECTOR,SW		1
	2-8	★S1-880-025-010	HEAD PANEL B ASSY		1
	2-9	★S1-880-020-050	SPRING,PANEL		1
	2-10	★S1-865-020-280	COLLAR,CHP LEVER		2
	2-11	★S1-880-020-060	LEVER,CHP		1
	2-12	★S1-880-040-050	SPRING,PINCH ROLLER		1
	2-13	---	CLUMP,WIRE		1
	2-14	★S1-880-020-010	PANEL,HEAD		1
	2-15	★S1-880-020-040	SPRING,RC		1
	2-16	★S1-880-020-190	COLLAR,PANEL		1
	2-17	★S1-865-023-060	HEAD BASE ASSY		1
	2-18	★S1-865-020-600	SPRING,CLUMP		1
	2-19	★S1-865-090-610	SPACER		1
	2-20	★S9-999-180-170	SCREW,HEAD COLLAR		2
	2-21	S1-880-043-010	PINCH ROLLER ARM F ASSY		1
	2-22	★S1-880-040-030	P-SPRING,ARM F		1
	2-23	★S1-880-090-080	FL METAL ASSY		1
	2-24	S1-880-053-140	T REEL R ASSY		1
	2-25	S1-880-053-130	T REEL F ASSY		1
	2-26	★S1-880-050-220	SPRING,BT R		2
	2-27	★S1-880-050-080	GEAR,FF		1
	2-28	★S1-880-055-010	REEL BASE ASSY		1
	2-29	★S1-880-210-060	HOLDER,PLUNGER		2
	2-30	★S1-880-050-180	SPRING,TRIGGER ARM F		1
	2-31	★S1-880-215-020	P KICK LEVER ASSY		1
	2-32	★S1-880-210-110	SPRING,PK LEVER		1
	2-33	★S1-880-073-020	RF CLUTCH ASSY		1
	2-34	S1-880-070-080	BELT,RF		1
	2-35	★S1-880-050-170	SPRING,FR ARM TRIGGER		1
	2-36	★S1-880-050-150	ARM,RF TRIGGER		1
	2-37	S1-880-090-380	BELT,MAIN		1
	2-38	S1-880-093-070	FLYWHEEL F ASSY		1
	2-39	★S1-880-050-350	GEAR,T		2
	2-40	★S1-880-055-020	GEAR T ARM F ASSY		1
	2-41	★S1-880-010-060	SPRING,M TRIGGER ARM		1
	2-42	★S1-880-210-030	ARM,M TRIGGER		1
	2-43	★S1-880-210-150	GEAR,M		1
	2-44	★S1-880-210-160	GEAR,RF CAM		1
	2-45	★S1-880-055-030	T GEAR ARM R ASSY		1
	2-46	★S1-880-215-010	CH SLIDE LEVER ASSY		1
	2-47	★S1-880-210-080	SPRING,CH SLIDE LEVER		1
	2-48	S1-880-093-080	FLYWHEEL R ASSY		1
	2-49	★S1-851-140-180	SCREW,MOTOR COLLAR		3
	2-50	★S1-821-120-660	RUBBER,MOTOR		3
	2-51	★S1-880-020-160	PLATE,PANEL SPRING		1
	2-52	★S1-880-090-110	BRACKET,MOTOR		1
	2-53	★S1-880-090-370	PULLEY,MOTOR		1
	2-54	★S1-880-020-180	PLATE,SHIELD		1

MODEL NO.

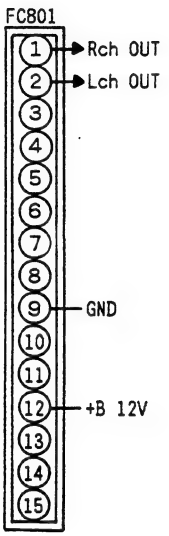
TX – D91

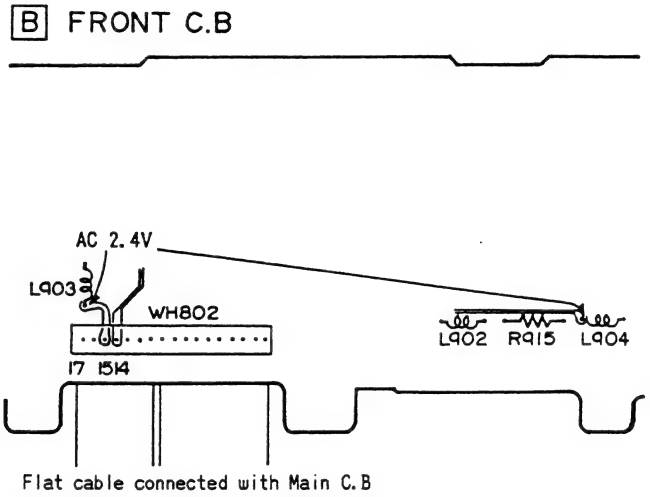
CAUTIONS WHEN SERVICING (TX – D91)

Model TX-D91 does not have a power supply circuit. Power is supplied to it through a 15-pin flat cable and the signal inputs/outputs are also performed through this cable.
When servicing the TX-D91 connect it to the MX-D91M so that power is supplied to the TX-D91. If the MX-D91M is not available, follow the procedure below.

[When servicing the unassembled TX-D91]

① Supply the following voltages to each FC801 terminal from an external power supply.

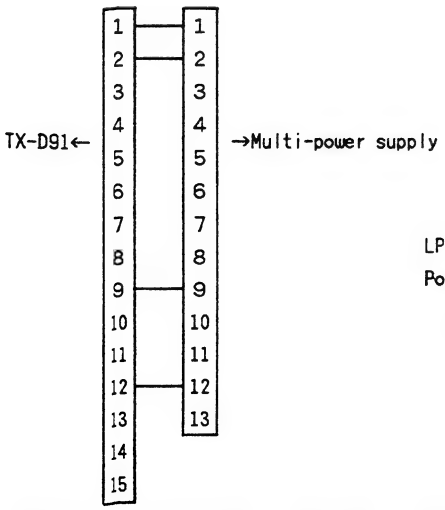




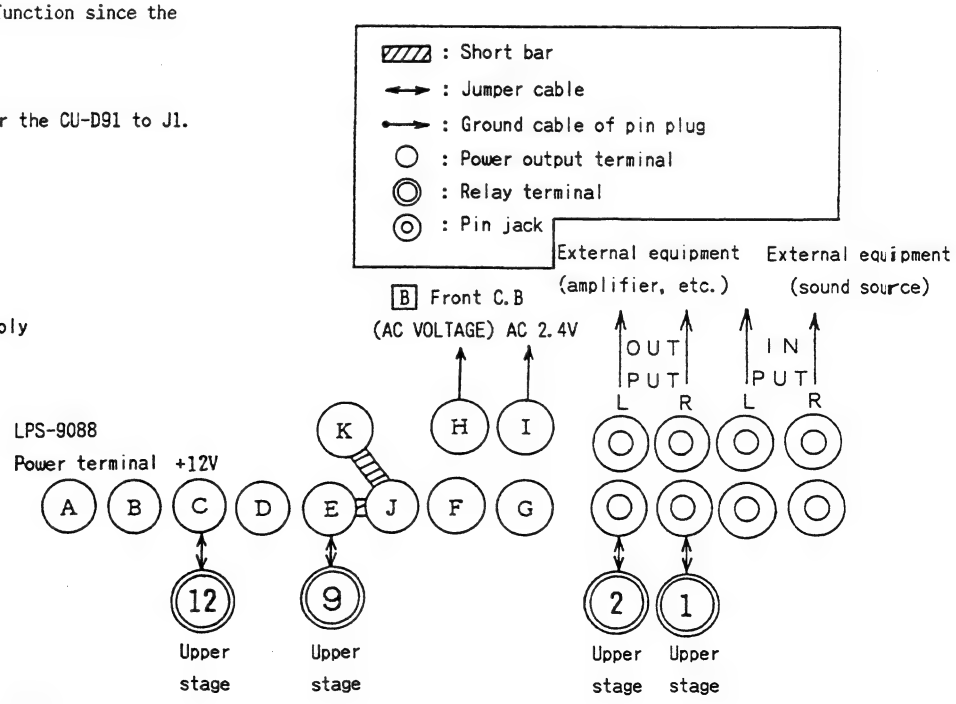
② Connection diagram when using multi power supply (LPS-9088).

1. Apply AC 2.4V to the section shown by arrows in the above diagram from a multi-power supply. (The display becomes dim because it is lower than the rated voltage.)
2. Turn the TX-D91 on using the SLEEP function since the POWER ON signal is not supplied.

Connect the multi-conversion harness for the CU-D91 to J1.



Connection diagram of multi-conversion harness



ELECTRICAL MAIN PARTS LIST (TX – D91)

REF.NO.	PART NO.	DESCRIPTION
=== IC ===		
	87-001-533-010	IC,GP1U501X1(REMOTE SENSOR)
	87-001-942-019	IC,LA1265G
	87-001-376-019	IC,LC7218
	87-020-446-019	IC,TA7343AP
	87-001-727-010	IC,UPD75206CW-115
=== TRANSISTOR ===		
	89-501-615-019	FET,2SK161GR
	89-502-415-019	FET,2SK241GR
	89-502-464-019	FET,2SK246Y
	87-026-165-019	FET,3SK73GR(Z)
	89-110-155-019	TRANSISTOR,2SA1015GR
	89-318-154-019	TRANSISTOR,2SC1815Y
	89-318-155-019	TRANSISTOR,2SC1815GR
	89-319-233-019	TRANSISTOR,2SC1923(O)
	89-320-011-019	TRANSISTOR,2SC2001K
	87-026-214-019	TRANSISTOR,DTA114YS
	87-026-215-019	TRANSISTOR,DTC114YS
=== DIODE ===		
	87-001-559-019	DIODE,1SS131
	87-020-465-019	DIODE,1SS133
	87-027-449-019	ZENER,HZ15-3L
	87-027-349-019	ZENER,HZ6A1L
	87-027-702-019	ZENER,HZ6C2L
=== MAIN CIRCUIT BOARD SECTION ===		
AT801	★81-631-646-019	ANTENNA TERMINAL 2P PAL(ANTENNA)
C1	★87-018-103-019	CAP,CERA U 8.2P-50 SL(E,K)
C2	★87-018-134-019	CAP,CERA U 0.01-16 Y
C3	★87-018-102-019	CAP,CERA U 6.8P-50 SL(E,K)
C4	★87-018-102-019	CAP,CERA U 6.8P-50 SL(E,K)
C5	★87-018-098-019	CAP,CERA U 3.3P-50 SL(E,K)
C5	★87-018-097-019	CAP,CERA U 2.2P-50 SL(Z)
C6	★87-018-100-019	CAP,CERA U 4.7P-50 SL(E,K)
C6	★87-018-106-019	CAP,CERA U 15P-50 SL(Z)
C7	★87-018-096-019	CAP,CERA U 1P-50 SL
C8	★87-018-119-019	CAP,CERA U 100P-50 B
C9	★87-018-134-019	CAP,CERA U 0.01-16 Y
C10	★87-018-116-019	CAP,CERA U 56P-50 SL
C11	★87-018-107-019	CAP,CERA U 18P-50 SL
C12	★87-018-134-019	CAP,CERA U 0.01-16 Y
C13	★87-018-134-019	CAP,CERA U 0.01-16 Y
C14	★87-010-401-019	CAP,ELECT 1-50V SME
C16	★87-018-100-019	CAP,CERA U 4.7P-50 SL(E,K)
C16	★87-018-106-019	CAP,CERA U 15P-50 SL(Z)
C20	★87-018-100-019	CAP,CERA U 4.7P-50 SL(Z)
C21	★87-018-105-019	CAP,CERA U 12P-50 SL(Z)
C22	★87-018-134-019	CAP,CERA U 0.01-16Y(Z)
C23	★87-018-105-019	CAP,CERA U 12P-50 SL(Z)
C24	★87-018-105-019	CAP,CERA U 12P-50 SL(Z)
C50	★87-018-134-019	CAP,CERA U 0.01-16 Y
C51	★87-018-134-019	CAP,CERA U 0.01-16 Y
C54	★87-018-134-019	CAP,CERA U 0.01-16 Y
C121	★87-018-134-019	CAP,CERA U 0.01-16 Y
C122	★87-010-374-019	CAP,ELECT 47-10V
C123	★87-018-134-019	CAP,CERA U 0.01-16 Y
C201	★87-010-544-019	CAP,ELECT 0.1-50V
C202	★87-014-049-019	CAP,PP 470P-100 J
C205	★87-018-110-019	CAP,CERA U 24P-50 SL
C206	★87-018-121-019	CAP,CERA U 150P
C207	★87-014-050-019	CAP,PP 510P-100J
C208	★87-018-134-019	CAP,CERA U 0.01-16Y
C209	★87-010-405-019	CAP,ELECT 10-50 SME
C301	★87-018-134-019	CAP,CERA U 0.01-16 Y
C302	★87-018-134-019	CAP,CERA U 0.01-16 Y
C303	★87-010-382-019	CAP,ELECT 22-25V SME
C304	★87-018-125-019	CAP,CERA U 330P-50 B
C305	★87-010-402-019	CAP,ELECT 2.2-50V SME
C306	★87-010-402-019	CAP,ELECT 2.2-50V SME
C307	★87-010-403-019	CAP,ELECT 3.3-50V SME
C308	★87-010-405-019	CAP,ELECT 10-50 SME
C309	★87-010-544-019	CAP,ELECT 0.1-50V
C311	★87-010-404-019	CAP,ELECT 4.7-50V SME
C313	★87-018-134-019	CAP,CERA U 0.01-16 Y
C314	★87-018-134-019	CAP,CERA U 0.01-16 Y
C316	★87-010-401-019	CAP,ELECT 1-50V SME
C317	★87-010-401-019	CAP,ELECT 1-50V SME
C318	★87-018-134-019	CAP,CERA U 0.01-16 Y
C319	★87-018-134-019	CAP,CERA U 0.01-16 Y
C320	★87-018-134-019	CAP,CERA U 0.01-16 Y(E,K)
C321	★87-010-402-089	CAP,ELECT 2.2-50(Z)
C322	★87-010-402-089	CAP,ELECT 2.2-50(Z)
C401	★87-010-401-019	CAP,ELECT 1-50V SME
C402	★87-010-403-019	CAP,ELECT 3.3-50V SME
C403	★87-010-248-019	CAP,ELECT 220-10V SME
C404	★87-014-057-019	CAP,PP 1000P-100 J
C405	★87-010-405-019	CAP,ELECT 10-50 SME
C409	★87-010-402-019	CAP,ELECT 2.2-50V SME
C410	★87-010-402-019	CAP,ELECT 2.2-50V SME
C505	★87-010-402-019	CAP,ELECT 2.2-50V SME
C506	★87-010-402-019	CAP,ELECT 2.2-50V SME
C512	★87-010-401-019	CAP,ELECT 1-50V SME
C602	★87-010-381-019	CAP,ELECT 330-16V SME
C603	★87-010-263-019	CAP,ELECT 100-10V
C604	★87-010-221-019	CAP,ELECT 470-10V
C605	★87-010-405-019	CAP,ELECT 10-50 SME
C606	★87-010-263-019	CAP,ELECT 100-10V
C607	★87-010-247-019	CAP,ELECT 100-50V SME
C701	★87-018-134-019	CAP,CERA U 0.01-16 Y
C702	★87-010-263-019	CAP,ELECT 100-10V
C703	★87-018-134-019	CAP,CERA U 0.01-16 Y
C704	★87-018-134-019	CAP,CERA U 0.01-16 Y
C706	★87-018-106-019	CAP,CERA U 15P-50 SL
C707	★87-010-101-019	CAP,ELECT 220-16V SME
C708	★87-010-545-019	CAP,ELECT 0.22-50V SME
C709	★87-018-134-019	CAP,CERA U 0.01-16 Y
C710	★87-010-404-019	CAP,ELECT 4.7-50V SME
C712	★87-018-134-019	CAP,CERA U 0.01-16 Y
C713	★87-018-134-019	CAP,CERA U 0.01-16 Y
C715	★87-010-401-089	CAP,ELECT 1-50V SME
C717	★87-018-134-019	CAP,CERA U 0.01-16 Y(E,K)
C718	★87-010-101-019	CAP,ELECT 220-16V SME
C801	★87-018-134-019	CAP,CERA U 0.01-16 Y
C806	★87-018-134-089	CAP,CERA 0.01-16 Y
C811	★87-018-134-019	CAP,CERA U 0.01-16 Y(Z)
C812	★87-018-119-089	CAP,CERA U 100P-50B
CF121	★87-008-261-019	FILTER,SFE 10.7MA5-A(E,K)
CF121	★82-799-621-019	FILTER,MS2-A(Z)
CF122	★87-008-261-019	FILTER,SFE 10.7MA5-A
CF123	★87-008-261-019	FILTER,SFE10.7 MA-5-A(Z)
CF301	★82-794-670-019	FILTER,BFU 450C4N
CF801	89-VT5-618-110	CORD,FG 15P(AMP)
CON801	87-009-065-019	CONNECTOR 15P FG(DECK)
CON803	87-754-629-019	CONNECTOR XH M 2P(AM LOOP)(E,K)
D1	87-027-900-019	VARI-CAP,1SV147

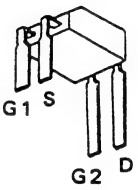
REF.NO.	PART NO.	DESCRIPTION
D2	87-027-900-019	VARI-CAP,1SV147
D3	87-027-900-019	VARI-CAP,1SV147
D21	87-027-900-019	VARI-CAP,1SV147(Z)
D201	81-754-634-019	VARI-CAP,KV1260
FIL1	87-030-105-010	FILTER,BPMB6A(Z)
L1	*87-006-198-019	COIL,ANT2-3/4 TS L5
L2	*87-006-199-019	COIL,ANT3/4 T L5
L3	*87-006-200-019	COIL,RF FM 3-1/2 T L5
L4	*87-006-201-019	COIL,RF FM 3-1/2 T L5
L5	*82-794-683-019	IFT,FM 6T
L6	*87-007-259-019	COIL,FM OSC (7K)N
L7	*87-003-098-019	COIL,2.2UH
L21	*87-006-202-019	COIL,RF FM4TSR,L5(Z)
L201	*87-006-190-019	COIL,MW ANT(3B)
L202	*87-006-177-019	COIL,LW ANT
L203	*82-794-687-019	COIL,MW OSC
L204	*82-794-688-019	COIL,LW OSC
L301	*81-631-611-019	COIL,QUAD (SINGLE)
L302	87-008-452-019	FILTER,CERAMIC CFAZ-450
L303	*87-003-098-019	COIL,2.2UH
L321	*82-794-697-019	FILTER,ANTI BIRDIE(Z)
L501	*87-008-253-019	FILTER,LPF
L601	*87-003-136-019	COIL,100UH
L701	*87-003-098-019	COIL,2.2UH
PT601	89-VT5-624-019	POWER TRANSFORMER FL
SFR301	*87-024-174-019	SFR,33K
SFR401	*87-024-171-019	SFR,4.7K
TC1	*87-011-219-019	CAP,TRIMMER 10P VCT
TC2	*87-011-219-019	CAP,TRIMMER 10P VCT
TC21	*87-011-219-019	CAP,TRIMMER 10P(Z)
TC211	*87-011-220-019	CAP,TRIMMER 20P
TC212	*87-011-221-019	CAP,TRIMMER 30P
TC701	*87-011-221-019	CAP,TRIMMER 30P VC51
X701	*87-030-163-019	RESONATOR,CRYSTAL 7.2MHZ(NDK)
=== FRONT CIRCUIT BOARD SECTION ===		
C810	*87-018-119-019	CAP,CERA U 100P-50 B
C901	*87-018-131-019	CAP,CERA U 1000P-50 B
C902	*87-018-134-019	CAP,CERA U 0.01-16 Y
C903	*87-018-134-019	CAP,CERA U 0.01-16 Y
C905	*87-018-134-019	CAP,CERA U 0.01-16 Y
C906	*87-018-134-019	CAP,CERA U 0.01-16 Y
C907	*87-018-131-019	CAP,CERA U 1000P-50 B
C908	*87-010-405-019	CAP,ELECT 10-50 SME
C909	*87-018-134-019	CAP,CERA U 0.01-16 Y
C910	*87-010-252-019	CAP,ELECT 1000-6.3V
C911	*87-010-071-019	CAP,ELECT 1-50V
C912	*87-010-071-019	CAP,ELECT 1-50V
C913	*87-010-374-019	CAP,ELECT 47-10V
C914	*87-010-401-019	CAP,ELECT 1-50V SME
C915	*87-010-415-089	CAP,ELECT 10-50 SRE
CF901	*87-008-394-019	FILTER,CERAMIC CST 4.19 MGW
FL901	81-690-620-010	FL,9BT-44GK(DISPLAY)
L901	*87-003-102-019	COIL,10UH
L902	*87-003-102-019	COIL,10UH
L905	*87-003-102-019	COIL,10UH
L906	*87-003-102-019	COIL,10UH
SW1	87-036-142-019	TACT SW(STATION PRESET1)
SW2	87-036-142-019	TACT SW(STATION PRESET2)
SW3	87-036-142-019	TACT SW(STATION PRESET3)
SW4	87-036-142-019	TACT SW(STATION PRESET4)
SW5	87-036-142-019	TACT SW(STATION PRESET5)
SW6	87-036-142-019	TACT SW(STATION PRESET6)
SW7	87-036-142-019	TACT SW(STATION PRESET7)

REF.NO.	PART NO.	DESCRIPTION
SW8	87-036-142-019	TACT SW(STATION PRESET8)
SW9	87-036-142-019	TACT SW(STATION PRESET9)
SW10	87-036-142-019	TACT SW(STATION PRESET10)
SW11	87-036-142-019	TACT SW(BAND)
SW12	87-036-142-019	TACT SW(TUNING/TIMER UP)
SW13	87-036-142-019	TACT SW(TUNING/TIMER DOWN)
SW14	87-036-142-019	TACT SW(SET/MEMO)
SW15	87-036-142-019	TACT SW(MODE)
SW16	87-036-142-019	TACT SW(DISPLAY)
SW17	87-036-142-019	TACT SW(SLEEP)
SW18	87-036-142-019	TACT SW(TIMER/STANDBY)

TRANSISTOR ILLUSTRATION
(MX – D91M,FX – W91/W919,TX – D91)

2SK246

2SK161
2SK241

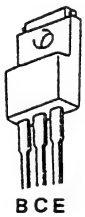


3SK73

DTA114
DTA144
DTC114
2SD2144

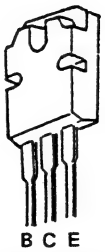
RN2202
RN2204

2SC1923
2SD655



2SB1370

2SA933
2SA952
2SA1015
2SA1296
2SA1318
2SC945
2SC1815
2SC1740
2SC2001
ESA1266

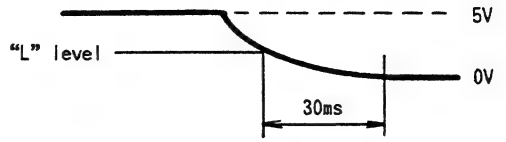


2SA1263

2SB1329

IC DESCRIPTION (TX－D91)

IC,UPD75206 CW－115

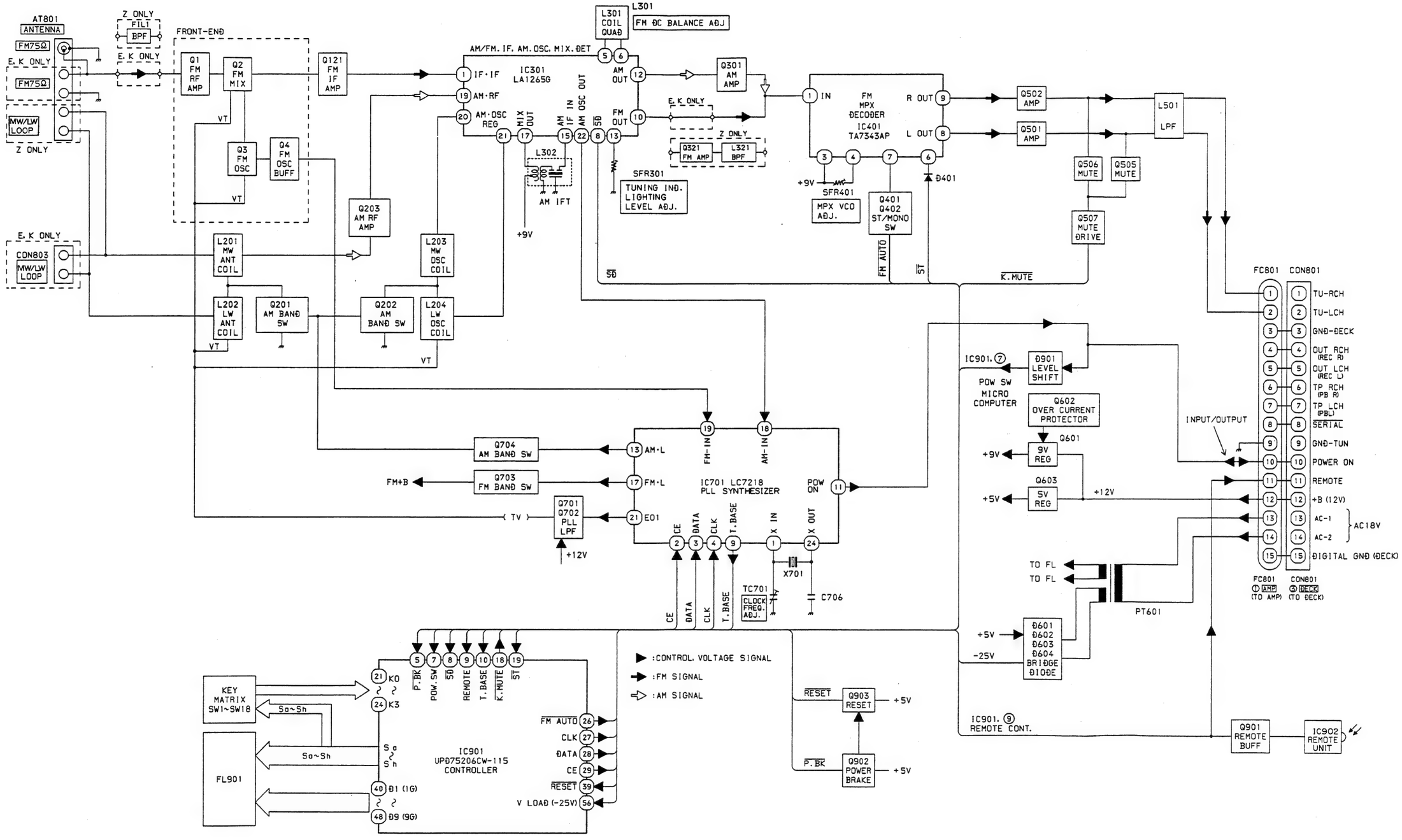
Pin No.	Pin Name	I/O	Description
1 〜 4	Se 〜 Sh	O	Segment signal outputs and key scan signal outputs. Active "H".
5	$\overline{\text{PBK}}$ (Power Brake)	I	Input to detect a power failure. When this pin continues to be "L" for 30ms at more, a power failure is detected (the unit enters the power backup state). 
6 16 17	TEST 1 TEST 2 TEST 3	I	Test mode setting inputs.
7	POW SW	I	Power control input. The power is turned on and off alternately (the rise is detected) every time the power switch is pressed. When the power is turned on, PLL (LC7218), Pin 11 POW goes "H".
8	$\overline{\text{SD}}$	I	Input to stop auto scanning. Active "L". • This input is not accepted during power off. • This input lights "TUNE". • SD is detected every 5ms during auto scanning, and when 4 "L" pulses are counted, auto scanning is stopped. • SD is not detected during manual tuning.
9	REMOCON	I	Remote control serial data input. Active "H" (the rise is detected)
10	T. BASE	I	Receives 8Hz from the PLL (LC7218) as a time base clock signal.
11 〜 15	$\overline{\text{SIGNAL 1}}$ 〜 $\overline{\text{SIGNAL 5}}$	—	Ground.
18	$\overline{\text{K. MUTE}}$	O	Outputs a muting signal when any key is operated. Active "L".
19	$\overline{\text{ST}}$	I	Input to light the STEREO indicator. • This input is not accepted when power is off.
20	——	—	Unused.
21 〜 24	K0 〜 K3	I	Auto scanning inputs.
25	——	—	Unused.
26	$\overline{\text{FM AUTO}}$	O	Outputs a signal depending on the mode selected by the MODE key during FM reception. Active "L" when the AUTO indicator lights. • IF the AUTO indicator changes when a frequency is selected in timer programming, the output is the channel being received.
27 28 29	CLK DATA CE	O	Output ports to transfer serial data to the PLL (LC7218). Active "H".
30 31	X_1 X_2	—	A ceramic oscillator which generates a main system clock signal (4.19MHz).
32	VSS	—	Ground.
33	XT_1	—	Unused (connected to ground).
34	XT_2	—	Unused.

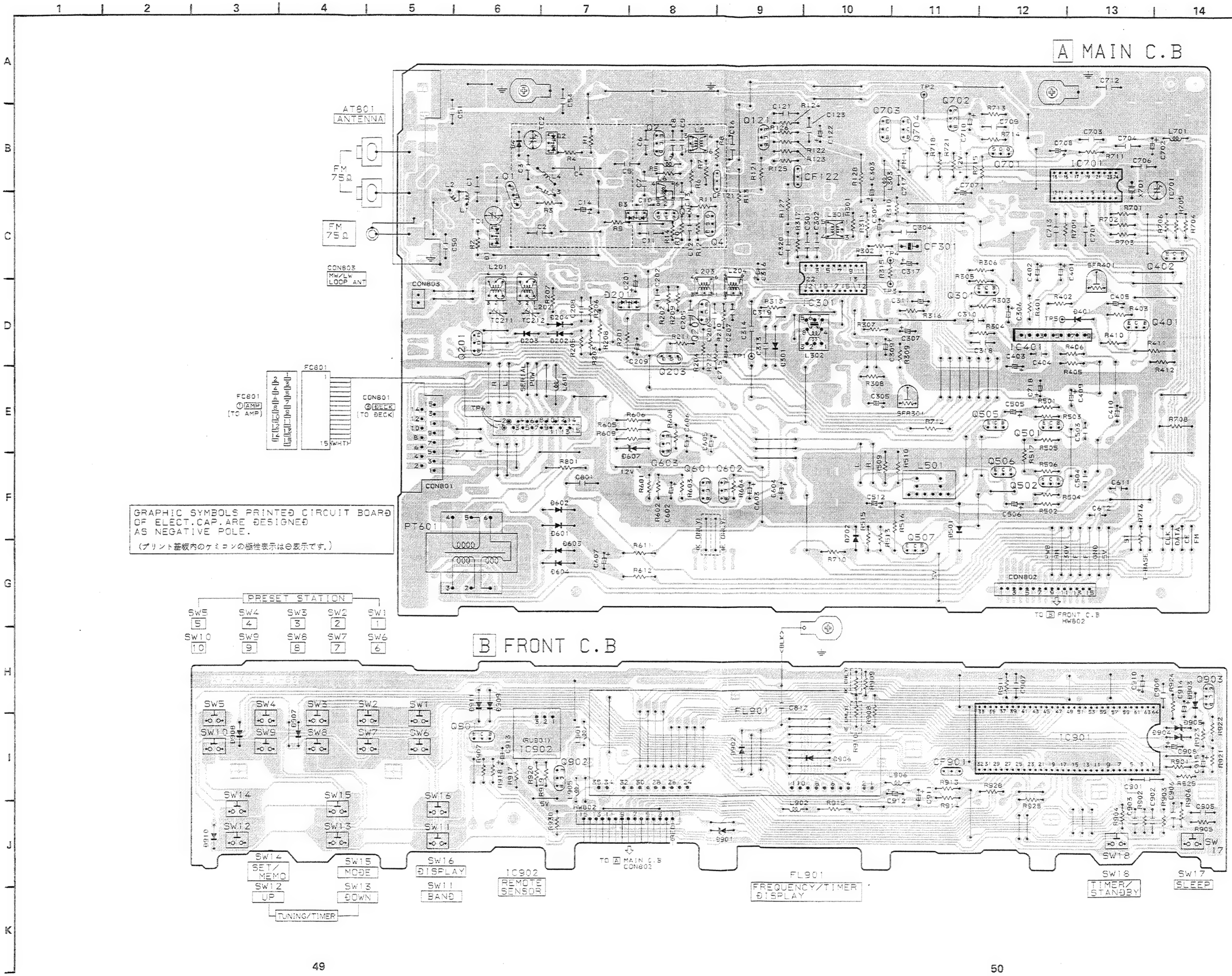
Pin No.	Pin Name	I/O	Description
35 36 37	B_0 B_1 B_2	I	Inputs to select the frequency range, etc. accordng to the destination to which the unit is to be shipped, using 3 bits. H: HIGH (pull-up) L: LOW (pull-down) *: Changed by a switch
38	10/12 MEMORY	I	Input to select the number of preset memories 10 or 12. "L" input assigns 10 memories and "H" input assigns 12 memories.
39	$\overline{\text{RESET}}$	I	System reset input.
40 ~ 48	D_1 ~ D_9	O	Digit signal outputs. Active "H".
49	——	—	Unused.
50	TIMER ON	—	Unused.
51	——	—	Unused.
52	START/CUT	—	Unused.
53	——	—	Unused.
54	——	—	Unused.
55	——	—	Unused.
56	VLOAD	I	Power supply pin of the output buffer in the FL display.
57	VPRE	I	For connection of pull-down resistor of the FL display.
58 59 60 61 62 63	Sj Si Sd Sc Sb Sa	O	Sj, Si : Unused. Segment signal outputs and key scan signal outputs. Active "H".
64	VDD	—	Power supply pin. 5V±10%

IC,LC7218

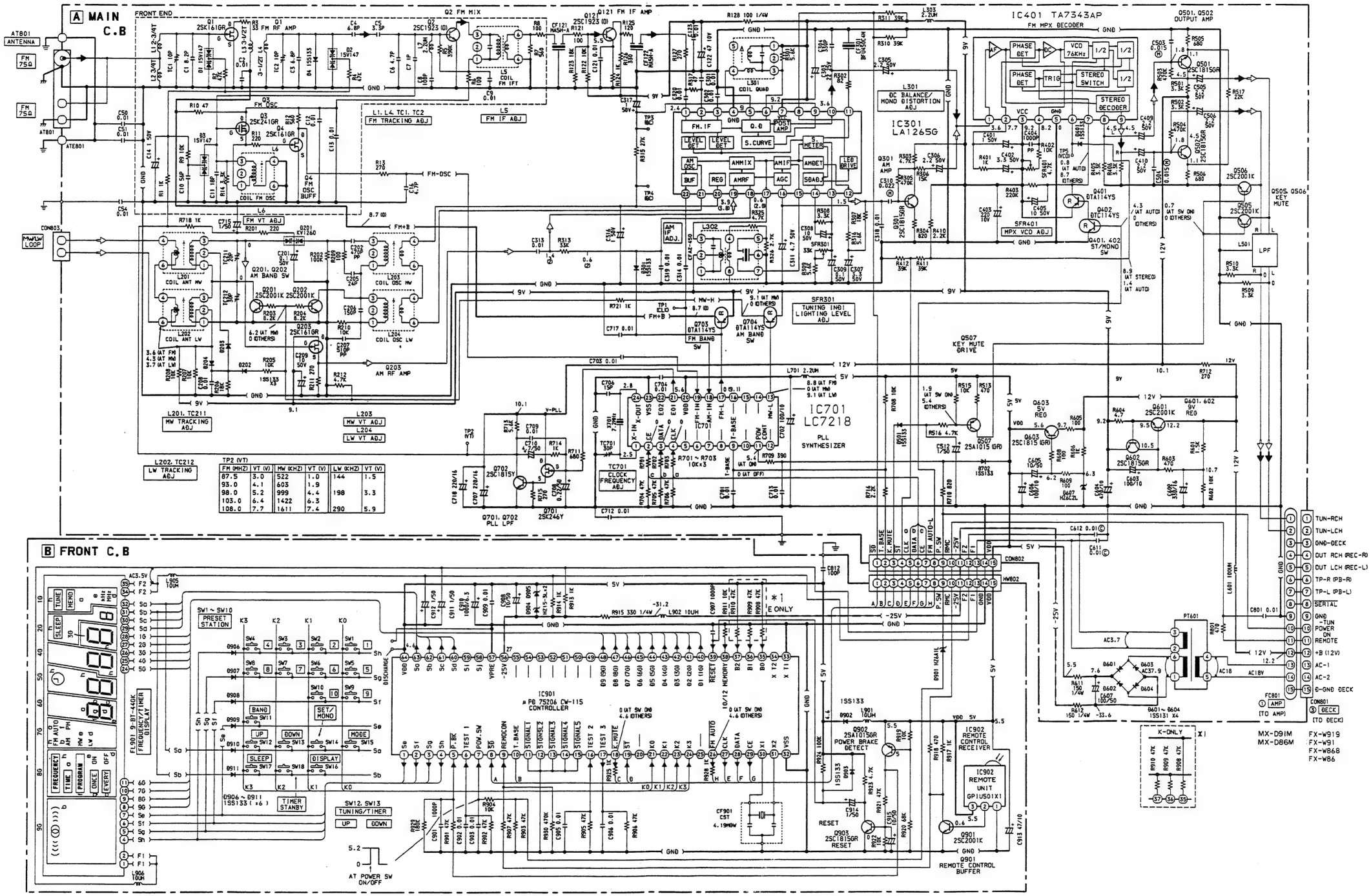
Pin No.	Pin Name	I/O	Description
1 24	X IN X OUT	—	Clock oscillator connection pins. A 7.2MHz crystal oscillator is connected.
2 3 4	CE DATA CLK	I	When a key is operated, signals are transferred from the CPU. Active "H".
5 ~ 8	——	—	Unused.
9	T. BASE	O	Outputs an 8Hz signal. Transfers it to the CPU as a time base clock signal.
10	——	—	Unused.
11	POW ON	O	Power control output. Outputs "H" during power on.
12	——	—	Unused.
13	MW(AM)-L	O	Outputs "L" when an MW(AM) broadcast is received. Unused.
14	——	—	Unused.
15 16	——	—	Unused.
17	FM-L	O	Outputs "L" when an FM broadcast is received.
18	AM IN	I	AM local oscillation input.
19	FM IN	I	FM local oscillation input.
20	VDD	—	Power supply pin. 5V±10%
21	EO_1	O	PLL error output.
22	EO_2	—	Unused.
23	VSS	—	Ground pin.

BLOCK DIAGRAM (TX – D91)

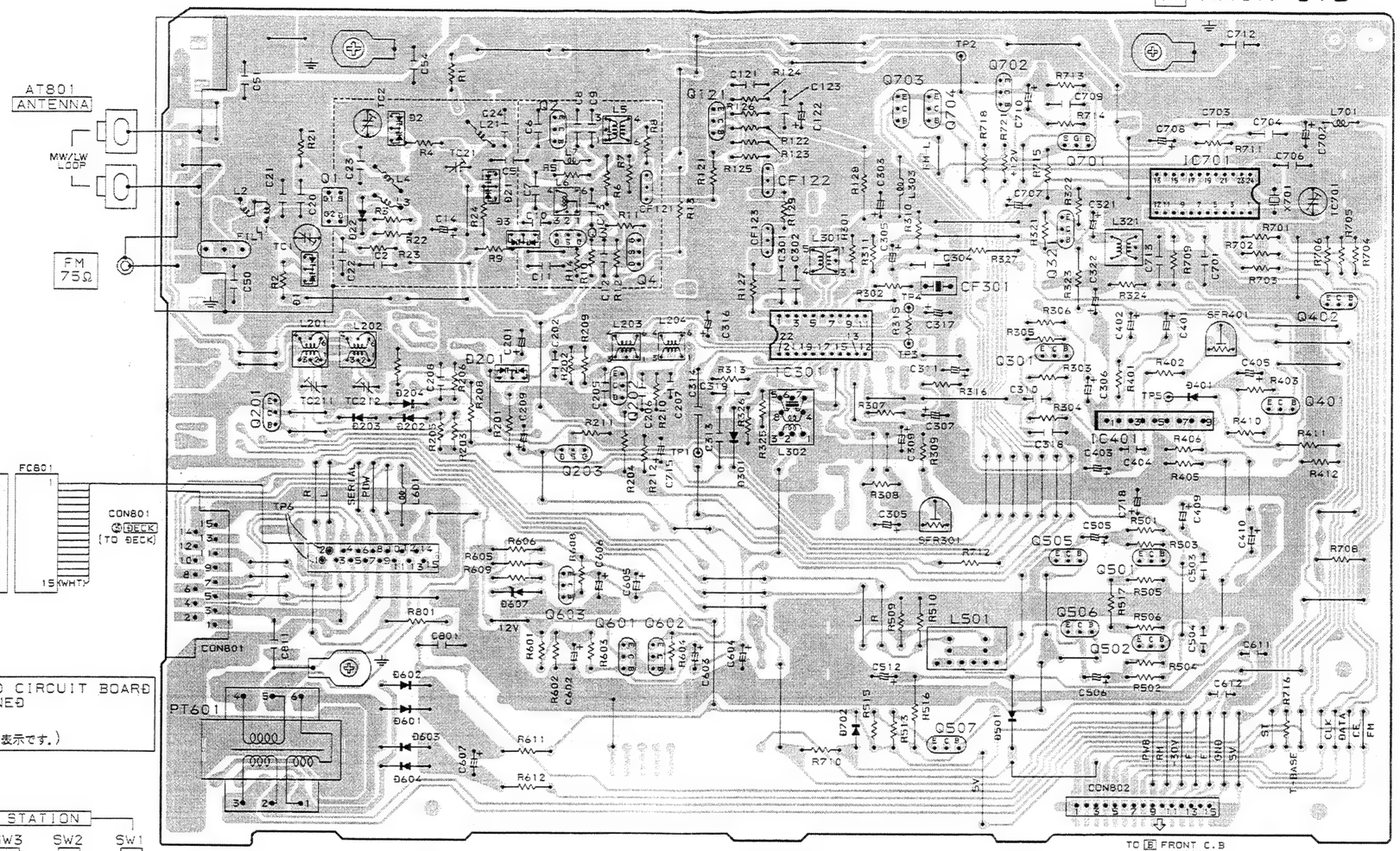



A MAIN C.B
AT801 ANTENNA
FM 75Ω
FM 75Ω
CON805 MW/LW LOOP ANT
FC801 ① AMP (TO AMP)
FC801
CON801 ② DECK (TO DECK)
15 (WHT)
GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT.CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示は⊖表示です。)
PRESET STATION
SW5 5
SW4 4
SW3 3
SW2 2
SW1 1
SW10 10
SW9 9
SW8 8
SW7 7
SW6 6
B FRONT C.B
SW14 SET/MEMO
SW15 MODE
SW16 DISPLAY
SW12 UP
SW13 DOWN
SW11 BAND
TUNING/TIMER
IC902 REMOTE SENSOR
FL901 FREQUENCY/TIMER DISPLAY
SW18 TIMER/STANDBY
SW17 SLEEP
TO A MAIN C.B CON802
TO B FRONT C.B HW802

SCHEMATIC DIAGRAM – 1 (TX – D91 YE,YK)



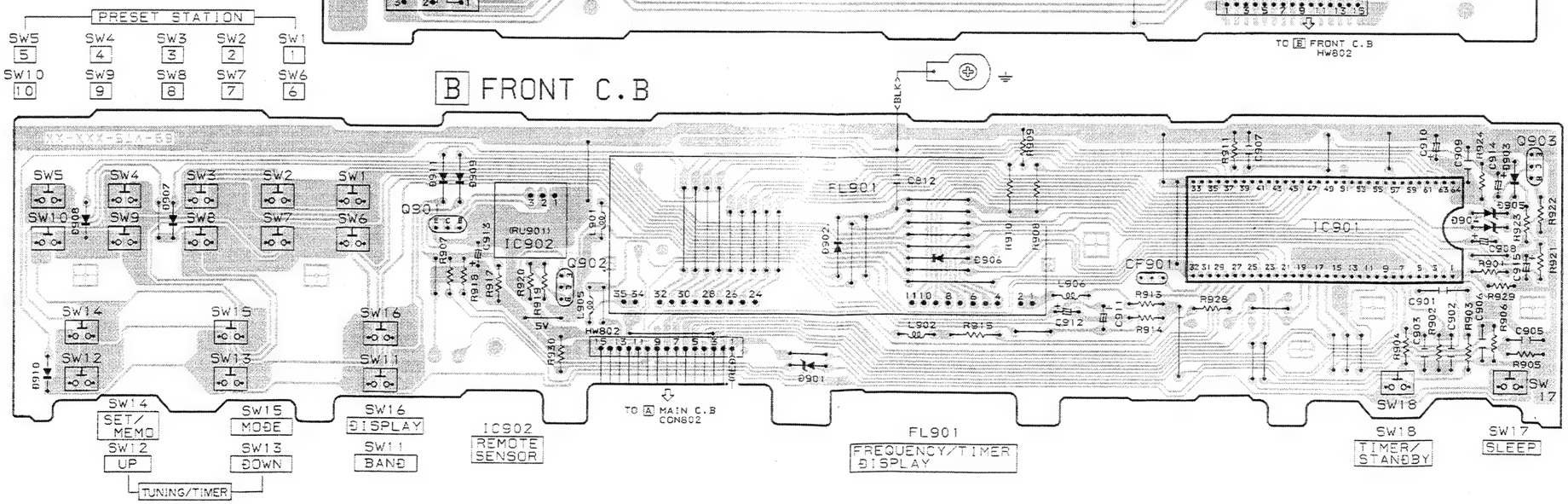
A MAIN C.B

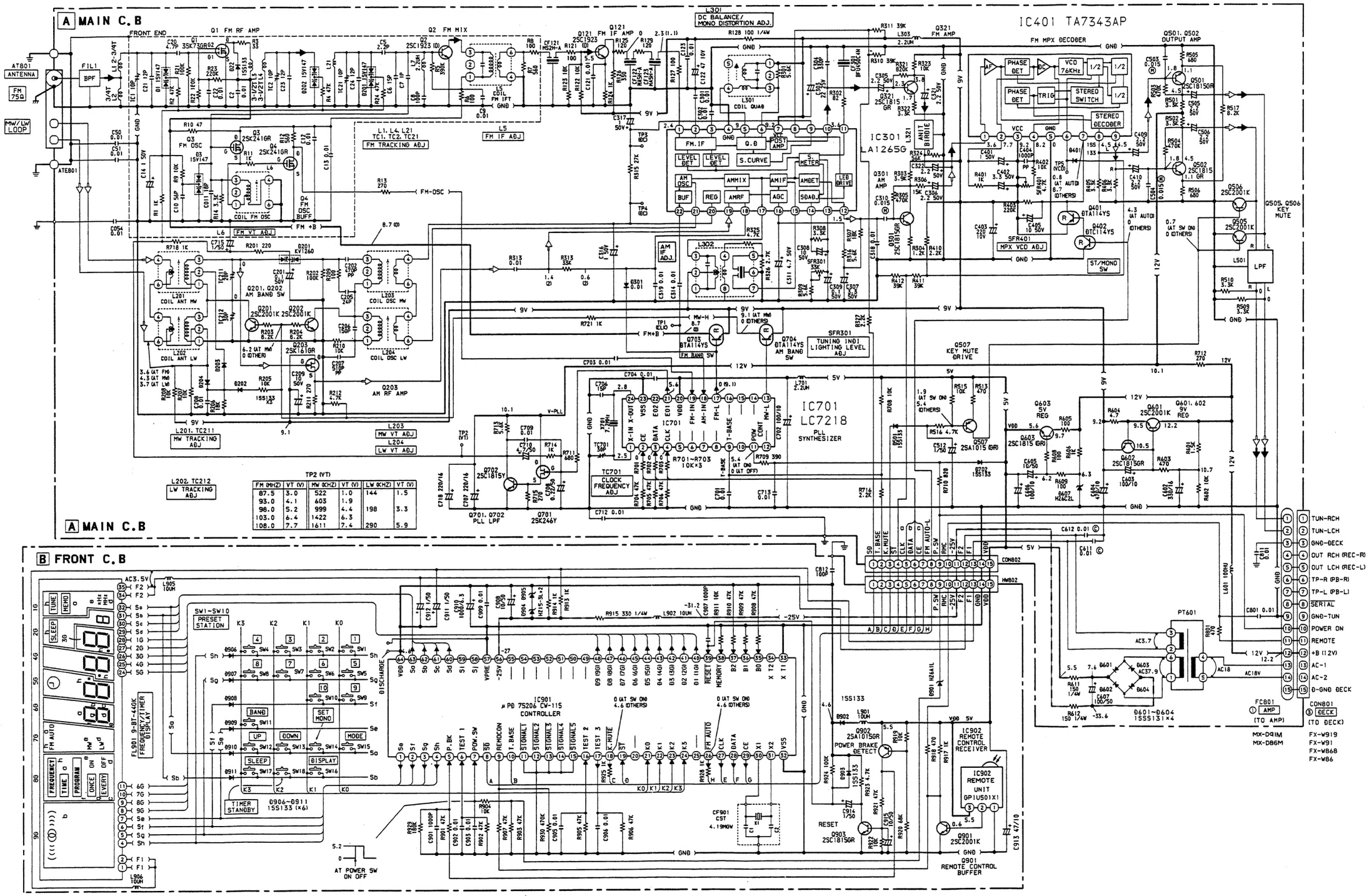


GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT.CAP. ARE DESIGNED AS NEGATIVE POLE.

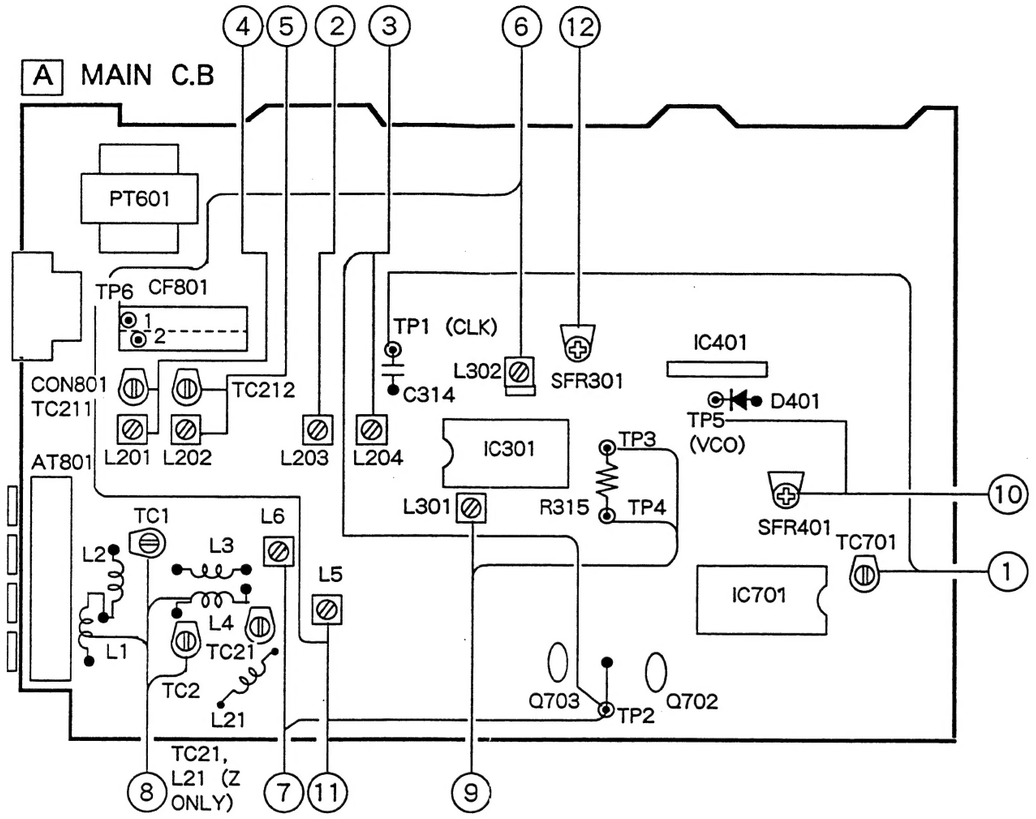
(プリント基板内のケミコンの極性表示は⊖表示です。)

B FRONT C.B




A MAIN C.B
B FRONT C.B
IC401 TA7343AP
FM MPX DECODER
IC301 A1265G
IC701 LC7218
PLL SYNTHESIZER
IC901 μPD 75206 CW-115 CONTROLLER
IC902 REMOTE CONTROL RECEIVER
Q501, Q502 OUTPUT AMP
Q507 KEY MUTE DRIVE
Q603 5V REG
Q601, Q602 9V REG
Q703 BTA114YS FM BAND SW
Q704 BTA114YS AM BAND SW
Q902 2SA1015GR POWER BRAKE DETECT
Q901 2SC2001K REMOTE CONTROL BUFFER
Q903 2SC1815GR RESET
Q201, Q202 AM BAND SW
Q203 2SK161GR AM RF AMP
Q401 BTA114YS
Q402 BTC114YS
Q507 2SA1015 (GR)
Q603 2SC1815 (GR)
Q501 2SC1815GR
Q502 2SC1815 GR
Q506 2SC2001K
Q505 2SC2001K
Q601, 602 2SC2001K
Q602 2SC1815GR
Q321 2SC1815 GR
Q301 2SC1815GR
Q701 2SK246Y
Q702 2SC1815Y
Q201 2SC2001K
Q202 2SC2001K
Q401 BTA114YS
Q402 BTC114YS
Q703 BTA114YS
Q704 BTA114YS
Q507 2SA1015 (GR)
Q603 2SC1815 (GR)
Q501 2SC1815GR
Q502 2SC1815 GR
Q506 2SC2001K
Q505 2SC2001K
Q601, 602 2SC2001K
Q602 2SC1815GR
Q902 2SA1015GR
Q901 2SC2001K
Q903 2SC1815GR
Q1 FM RF AMP
Q2 FM MIX
Q121 FM IF AMP
Q321 FM AMP
Q301 AM AMP
Q3 FM OSC
Q4 FM OSC BUFF
FRONT END
AT801 ANTENNA
FM 75Ω
MW/LW LOOP
ATE801
FIL1 BPF
L1, L4, L21 TC1, TC2, TC21 FM TRACKING ADJ
L5 FM IF ADJ
L6 FM VT ADJ
L201, TC211 MW TRACKING ADJ
L202, TC212 LW TRACKING ADJ
L203 MW VT ADJ
L204 LW VT ADJ
L301 DC BALANCE/ MONO DISTORTION ADJ.
L302 AM IF ADJ.
L303 2.2UH
L501 LPF
L701 2.2UH
L902 10UH
L905 10UH
L906 10UH
L601 100UH
SFR301 TUNING IND/ LIGHTING LEVEL ADJ
SFR401 MPX VCO ADJ
TC701 CLOCK FREQUENCY ADJ
PT601
FL901 9-BT-440K FREQUENCY/TIMER DISPLAY
SW1~SW10 PRESET STATION
TIMER STANDBY
AT POWER SW ON OFF
CF901 CST 4.19MGW
CF121 MS2H-A
CF122 MS2H-A
CF123 MS2H-A
CON801
CON802
HW802
FC801
TUN-RCH
TUN-LCH
GND-DECK
OUT RCH (REC-R)
OUT LCH (REC-L)
TP-R (PB-R)
TP-L (PB-L)
SERIAL
GND-TUN
POWER ON
REMOTE
+B (12V)
AC-1
AC-2
Θ-GND DECK
(TO AMP)
(TO DECK)
MX-D91M
MX-DB6M
FX-W919
FX-W91
FX-W868
FX-W86
FM +B
FM-OSC
V-PLL
GND
9V
12V
5V
-25V
TP2 (VT)
FM (MHZ) VT (V)
87.5 3.0
93.0 4.1
98.0 5.2
103.0 6.4
108.0 7.7
MW (KHZ) VT (V)
522 1.0
603 1.9
999 4.4
1422 6.3
1611 7.4
LW (KHZ) VT (V)
144 1.5
198 3.3
290 5.9

ADJUSTMENT (TX – D91)



(TUNER SECTION)

1. Clock Frequency Adjustment
   Settings : · Test point : TP1
   · Adjustment location : TC701
   Method : Set to MW 1611kHz and adjust so that the test point becomes 2061kHz±0.01kHz.

2. MW VT Adjustment
   Settings : · Test point : TP2
   · Adjustment location : L203
   Method : Set to MW 522kHz and adjust so that the test point becomes 0.9V±0.05V.

3. LW VT Adjustment
   Settings : · Test point : TP2
   · Adjustment location : L204
   Method : Set to LW 144kHz and adjust so that the test point becomes 1.5V±0.05V.

4. MW Tracking Adjustment
   Settings : · Test point : TP6
   L201 · 603kHz
   TC211 · 1404kHz
   Method : Output level become maximum.

5. LW Tracking Adjustment
   Settings : · Test point : TP6
   L202 · 144kHz
   TC212 · 290kHz
   Method : Output level become maximum.

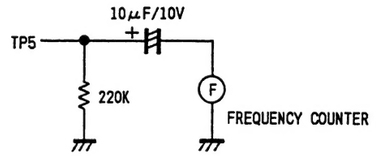
6. AM IF Adjustment
   Settings : · Test point : TP6
   L302 · 450kHz

7. FM VT Adjustment
   Settings : · Test point : TP2
   · Adjustment location : L6
   Method : Set to FM 87.5MHz and adjust L6 so that TP2 becomes 3.0V±0.05V.

8. FM Tracking Adjustment
   Settings : · Test point : TP6
   L1, L4 (E,K) } · · · · · · · · · · · · · · 87.5MHz
   L1, L4, L21 (Z) }
   TC1, TC2 (E,K) } · · · · · · · · · · · · · · 108MHz
   TC1, TC2, TC21 (Z) }
   Method : Output level become maximum. Confirm at 98.0MHz, distortion less than 3%.

9. DC Balance/MONO Distortion Adjustment
   Settings : · Test point : TP3, TP4 (DC balance)
   TP6 (Distortion)
   · Adjustment location : L301
   Method : Set to FM 98.0MHz and adjust L301 so that TP3 and TP4 becomes 0V±0.02V. Next, adjust L301 so that the distortion becomes minimum (less than 0.6%).

10. MPX VCO Adjustment
    Settings : · Test point : TP5
    · MODE SW : STEREO
    · Adjustment location : SFR401
    Method : Connect a capacitor and a resistor as below. Set to FM 98.0MHz non modulation and adjust so that the frequency at test point becomes 38kHz±0.05kHz.



11. FM IF Adjustment
    Settings : · Test point : TP6
    L5 · 10.7MHz

12. Tuning Indicator Lighting Level Adjustment
    Settings : · Adjustment location : SFR301
    Method : Apply an FM 98.0MHz, 18dB signal and adjust so that the "TUNE" indicator lights. Lower the input level by 2dB and check that the "TUNE" indicator goes out.

PRACTICAL SERVICE FIGURE

〈FM SECTION〉

Usable Sensitivity : (THD 3%)	E, K MODELS 4±5dB (at 87.5, 98.0, 108.0MHz) Z MODEL 8±5dB (at 87.5MHz) 7±5dB (at 98.0MHz) 7±5dB (at 108.0MHz)
S/N 50dB Quieting Sensitivity :	E, K MODELS 28±6dB (at 87.5, 90.0, 108.0MHz) Z MODEL 32±6dB (at 87.5, 90.0, 108.0MHz)
Signal to Noise Ratio :	(MONO.) E, K MODELS More than 68dB (at 98.0MHz) Z MODEL More than 65dB (at 98.0MHz) (STEREO) E, K MODELS More than 62dB (at 98.0MHz) Z MODEL More than 58dB (at 98.0MHz)
Total Harmonic Distortion :	(MONO.) Less than 0.8% (at 98.0MHz) (STEREO) Less than 1.0% (at 98.0MHz)
Stereo Separation :	More than 25dB
Intermediate Frequency :	10.7MHz

〈MW SECTION〉

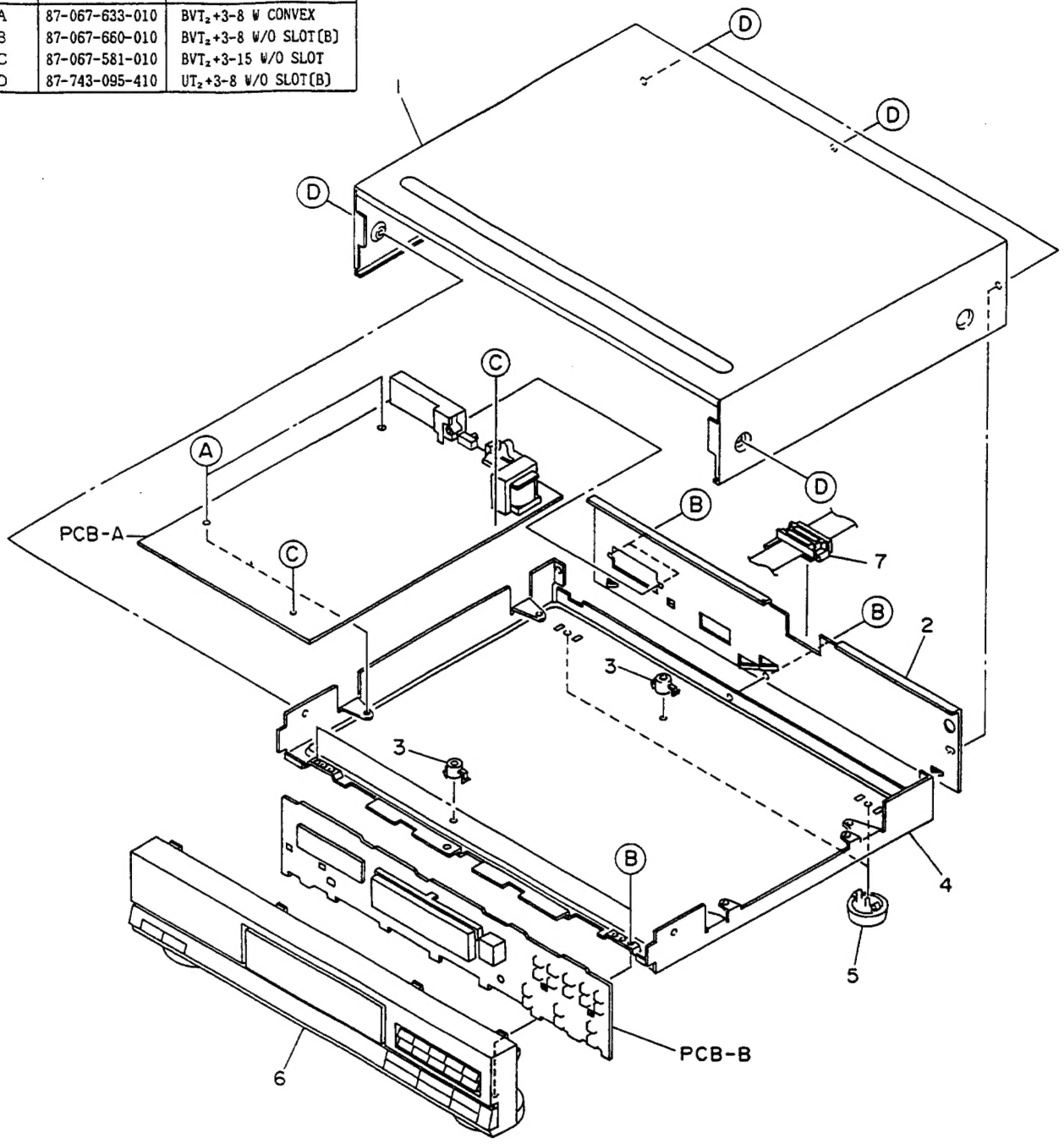
Sensitivity :	57±3dB (at 603kHz) 54±3dB (at 999kHz) 53±3dB (at 1404kHz)
Total Harmonic Distortion:	Less than 2.0% (at 999kHz)
Intermediate Frequency :	450kHz

〈LW SECTION〉

Sensitivity :	64±5dB (at 144, 198, 290kHz)
Intermediate Frequency :	450kHz

EXPLODED VIEW (TX – D91)

REF.NO.	PART NO.	DESCRIPTION
A	87-067-633-010	BVT_2+3-8 W CONVEX
B	87-067-660-010	BVT_2+3-8 W/O SLOT(B)
C	87-067-581-010	BVT_2+3-15 W/O SLOT
D	87-743-095-410	UT_2+3-8 W/O SLOT(B)



MECHANICAL PARTS LIST (TX – D91)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	1	*89-VT5-003-010	CABINET,STEEL	*	1
	2	*89-VT5-021-119	PANEL,REAR(H)	*	1
	2	*89-VT5-026-119	PANEL,REAR(HJ)	*	1
	2	*89-VT5-022-019	PANEL,REAR(U)	*	1
	2	*89-VT5-023-019	PANEL,REAR(E)	*	1
	2	*89-VT5-024-019	PANEL,REAR(K)	*	1
	2	*89-VT5-025-019	PANEL,REAR(Z)	*	1
	3	*81-664-202-010	HOLDER,P.C.B		2
	4	---	CHASSIS,AMP		1
	5	*87-085-213-010	FOOT,H12.5		2
	6	*09-047-558-010	FRONT CABINET ASSY(EXCEPT U)	*	1
	6	*09-047-583-010	FRONT CABINET ASSY(U)	*	1
	7	*89-VT5-202-010	BUSHING,CORD	*	1

MODEL NO.

SX – D91/E91/U91

■ SPEAKER LIST (SX – D91 / E91 / U91)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	1	89-VS5-014-010	CABINET(D91)	*	2
	2	89-VS5-029-010	CABINET(E91)	*	2
	3	81-695-025-010	AIWA BADGE G(D91)		2
	4	81-695-003-010	PANEL WOOFER(D91)		2
	5	89-MS7-001-010	PANEL WOOFER(E91)		2
	6	81-695-003-010	PANEL WOOFER(U91)		2
	7	81-695-006-010	PANEL SQUAKER ASSY(D91)		2
	8	89-VS5-016-010	PANEL MIDRANGE ASSY(E91)	*	2
	9	81-695-006-010	PANEL SQUAKER ASSY(U91)		2
	10	81-695-007-010	PANEL TWEETER ASSY(D91)		2
	11	89-VS5-019-010	PANEL TWEETER ASSY(E91)	*	2
	12	81-695-007-010	PANEL TWEETER ASSY(U91)		2
	13	81-672-026-010	GRILL FRAME ASSY(D91)		2
	14	89-VS5-030-010	GRILL ASSY(E91)	*	2
	15	81-672-026-010	GRILL FRAME ASSY Y(U91)		2
	16	81-672-610-010	TERMINAL ASSY(D91)		2
	17	89-VS5-613-010	TERMINAL ASSY(E91)	*	2
	18	81-695-010-010	TERMINAL U(U91)		2
	19	89-VS5-608-010	SPEAKER WOOFER(D91,E91)	*	2
	20	89-VS5-616-010	SPEAKER WOOFER(U91)	*	2
	21	89-VS5-609-010	SPEAKER TWEETER(D91,E91)	*	2
	22	81-695-617-010	SPEAKER TWEETER(U91)		2
	23	89-VS5-610-010	SPEAKER CERAMIC(D91,E91)	*	2
	24	81-695-618-010	SPEAKER CERAMIC(U91)		2
	25	81-672-612-010	SPEAKER CORD(D91)		2
	26	89-VS5-615-010	SPEAKER CORD(E91)	*	2
	27	83-135-622-010	CAP,ELECT 2.2UF(U91)		2
	28	81-695-612-010	RES,3.30HM-5W(U91)		2

■ ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	1	★89-VK5-904-019	INSTRUCTION BOOKLET,H(H)	*	1
	2	★89-VK5-907-019	INSTRUCTION BOOKLET,H(MH)	*	1
	3	★89-VK5-906-019	INSTRUCTION BOOKLET,U(U)	*	1
	4	★89-VK5-905-019	INSTRUCTION BOOKLET,E(E,K,Z)	*	1
	5	★81-653-645-010	AM-LOOP ANT(6T) NC(H,U,Z)		1
	6	★81-653-647-010	AM-LOOP ANT(6T) CON(E,K)		1
	7	★81-748-632-010	FEEDER-ANT,FM N(H,U,E,K)		1
	8	★87-042-062-010	SIEMENS PLUG S-16115(H)		1
	9	★87-043-106-010	FM,WIRE ANT Z(Z)		1
	10	★89-VR5-007-019	REMOTE UNIT RC-T91FYBN(H)	*	1
	11	★89-VR5-015-019	REMOTE UNIT RC-T91MFYBN(MH,U)	*	1
	12	★89-VR5-016-019	REMOTE UNIT RC-T91MLYBN(E,K,Z)	*	1